

SOME OBSERVATIONS RELATIVE TO NON-MALIGNANT STENOSIS OF THE PYLORUS.

WITH A REPORT OF TWO CASES, TREATED BY
THE HEINECKE-MICULICZ METHOD.

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San Francisco.

*Read before the Medical Society of the State of California,
April 15, 16, 17, 1902, San Francisco.*

Narrowing of the pyloric orifice of the stomach is attended with disturbances which are difficult of interpretation and disastrous in their effects. Such a constriction, though apparently trivial, exerts an influence upon digestive activity wholly disproportionate to the anatomical discrepancy. As the lesion develops, partial obstruction finds expression in a multiplicity of symptoms which are medically incorrigible. Lately the condition has come to be regarded as wholly within the domain of the surgeon, and has markedly broadened the field of intestinal surgery.

The causes of non-malignant stenosis of the pylorus may be classified under the following heads:—

(1) Cicatricial contracture following chronic ulcer; (2) spasm of the pylorus; (3) hypertrophic thickening of the pyloric wall; (4) congenital stenosis; (5) tumors of the pylorus; (6) interference by pressure from adhesions or adjacent organs.

For the purposes of this occasion, only the first three, the most frequent causes, will be considered.

Attention was first called to the relation of gastric, pyloric, or duodenal ulcer to cicatricial stenosis by Loreta more than twenty years ago. His observations and conclusions remain undis-

puted, though the measure advocated by him for relief has been greatly modified and improved. Spasm of the pylorus, producing early, intermittent obstruction, is a direct consequence of gastric irritation. The vertical, or nearly vertical, position of the normal stomach, as noted by Doyen, seems to have a direct bearing upon this consideration. Hyperchlorhydria, excess of chlor-hydric acid, is a very common cause of gastric irritability, and the dependent position of the pylorus insures its exposure to this influence beyond peradventure. Kammerer insists that a more or less important lesion of the mucous membrane at or adjacent to the pylorus may underlie spastic stenosis, and it seems reasonable that, in the presence of such a structural fault, its expression may be emphasized by the preceding condition. Until recently, hypertrophic stenosis has been defined by Boas as a permanent thickening of the pyloric wall, likewise due to irritation. According to Lebert the muscular coat is the one most affected by the hypertrophic process, and Boas traces a logical sequence of cause and effect between spastic and hypertrophic stenosis upon the ground that the overactivity induced by the former produces the structural change which is manifest in the hyperplasia.

The changes occurring in the stomach as a result of this condition are variable. In cases of long standing, and more particularly where the stomach is fairly tolerant, gastric dilatation is a common incident. Formerly relaxation of the stomach walls was held to be a constant and inherent complication, without

which a diagnosis could not be maintained. But later authorities, notably Boas and Bennett, have found the stomach, in the presence of pyloric stenosis, manifesting different degrees of dilatation, and in certain cases normal in size. This is probably explained by the fact that where persistent vomiting is an early symptom the cause of dilatation is absent; the stomach remains empty and its dimensions unchanged. So-called "idiopathic" dilatation of the stomach, that is, dilatation independent of obstruction, has heretofore attracted much attention as a purely medical affection. That this term is legitimately employed in connection with acute digestive disturbances, I am prepared to admit, but it seems sound surgical doctrine that that form of dilatation which coexists with every known digestive abnormality, and which entails as a heritage all the miseries of impaired nutrition, and which persists for months or years, must be regarded as a result of obstruction. I have been deeply impressed by the observation of Bennett, who says unreservedly that persistent dilatation is, with few exceptions, the direct result of pyloric obstruction or some other gross pathological lesion. I am well aware that this statement will be closely scrutinized and possibly stigmatized by the conservative medical practitioner. Dilated stomachs will continue to be treated medically and mechanically; irrigation will be tried and abandoned; the science of dietetics will be exhausted; resort will be had to massage, externally and internally, without avail. All such measures will be appealed to, until, after brief intervals of relief, the peculiar glandular equipment of the viscus will have become seriously crippled or its identity lost; and the patient will be relegated to a life of permanent invalid-

ism. Nor can post-mortem findings setting forth the absence of constriction in connection with extreme dilatation be admitted as conclusive evidence in establishing a negative in this controversy. While it is true that typical cicatricial stenosis will be manifest after death, this does not apply where the contracture is of the spastic or hypertrophic variety. In these latter cases, relaxation and tissue softening is a well-recognized condition, occurring either just before or just after dissolution. Conditions analogous to this are found, post-mortem, in the relaxation of the epiglottis, the anal sphincters, and the os uteri. The measure of pyloric patency consistent with normal function is the unrestricted passage of two or three fingers. In one of my early operative cases, the orifice admitted with difficulty the beak of an ordinary dressing forcep. In other cases, the tip of the index finger could be passed with moderate pressure, and a comparatively trifling deviation from the normal standard has been known to provoke persistent and menacing symptoms. In a word, the importance of any constriction will be enhanced as the long axis of the stomach approaches the horizontal, or settles below it.

In considering the matter of surgical treatment, we are confronted by two facts: first, that radical measures should be resorted to at the earliest possible moment; relief should be obtained before degenerative changes in the stomach have taken place, and while the recuperative powers of the patient are unimpaired. In this connection I again appeal to the doctrine of Jonathan Hutchinson: "Early operations are successful operations; late operations may be unsuccessful." Furthermore, not the least of the possible advantages that

may accrue from early interference is the opportunity afforded for the detection of incipient malignancy while it may be susceptible of successful removal. Hemmeter, whose monograph upon "The Diagnosis of Cancer of the Stomach" is one of the classics of medical literature, freely admits the impossibility of an accurate early differentiation. It is within reason to expect that the revelation of a timely exploration, in the presence of obscure gastric disturbances, will now and then possess an immense value. Second, it must be borne in mind and the patient must be forewarned that in advanced cases the restoration, or partial restoration, of function after operation will be slow of realization. That ultimate relief may be anticipated, even in the presence of grave symptoms, was shown in my first case, which was operated by the Loreta method in 1889, and reported to this society in 1892. The operation was done for cicatricial stenosis attended with enormous dilatation. Partial recurrence of symptoms led to a second attempt five months later, when it was found that during the interval the dilatation was greatly lessened, and that the pyloric stenosis was not fully reestablished. Following the second operation there was a tedious convalescence, which occupied a period of nearly two years. Three years later he was in excellent condition.

Can these lesions be relieved by operative measures, with a reasonable degree of safety? is a query that must be answered affirmatively before the procedure can stand accredited. In the statistics of early operators, as collated by Korte and Herzfeld, we are confronted by a mortality of 26.7 per cent, occurring in the clinics of Czerny and Miculicz. Korte and Herzfeld sum-

marize their individual cases as follows:—

A total of 38 cases were operated.

	Cured	Died	Per Cent
5 circular resections of pylorus.....	4	1	20
1 segmental resection of pylorus...1	—	—	—
29 gastro-enterostomies	23	6	20.6
1 gastro-enterostomy. Has gastrostomy.....	0	1	100
1 pyloro-plasty (Heinecke-Miculicz).....	1	—	—
1 gastrostomy for hemorrhage.....	0	1	100

This is certainly not an encouraging exhibit. Eliminating two fatal cases, one a gastro-enterostomy plus gastrostomy, and the other a gastrostomy for hemorrhage, both, it may be assumed, being done with the patient in extremis, and the matter stands as follows: 36 cases operated by various methods; 29 recovered, and 7 died, the mortality rate being 24 per cent. I regret that fuller details of these operations are not obtainable. My own work along these lines consists of eight complete operations upon six patients, reoperations having been required in two cases, as follows: 5 Loreta operations (divulsion) done on three patients; 1 pylorotomy; 2 Heinecke-Miculicz operations. All recovered. Three of these cases were in bad condition, giving no positive assurance of survival.

Various operative methods have been devised for the relief of pyloric stenosis. That recommended by Loreta may be regarded as obsolete because of lack of permanency of results by simple stretching. In selected cases, it has the advantage of safety, the visceral interference being very slight. Pylorotomy will always have a place in this relation, its adaptability being self-evident in the presence of suspected incipient malignancy. Gastro-enterostomy seems to have a larger following at the present time than any other plan. This is rationally explained by the fact that, in

most of the operations done, the necessity for drainage because of great dilatation of the stomach has been accentuated. Guided by my own experience, which extends only to two recent cases, I am inclined to regard with favor the plastic operation which was devised simultaneously by Miculicz and Heinecke, and which will be described later. Robson refers to this method as a measure of great utility where feasible, on the ground that it can be performed rapidly and with comparatively little risk. He reports eighteen cases operated by this method, of which sixteen recovered, the two fatalities occurring in the earlier cases. The last twelve cases, done since 1897, all recovered.

The following report of two cases of pyloroplasty by the Heinecke-Miculicz method must be regarded as preliminary. Too short a time has elapsed since operation, and the condition of both patients is still such as to depreciate, in a measure, the value of any conclusions that may be drawn at the present time.

Case 1. Mr. H. T. B., merchant, age 33 years, came under my notice in December, 1901, with the following history: Family history negative. Six years ago had a violent attack of gastric disturbance, attended with pain, nausea, and vomiting. Was under treatment for about two months; made a good recovery; and had no further trouble until May, 1900, when he had a similar attack, more severe than the first. The condition was relieved, to recur in October, 1901, when he fell under the care of Dr. G. W. Fuller, of this city. At this time persistent vomiting, attended with pain after eating, was the most prominent symptom. Under gastric lavage and medication, he was relieved; but on December 18, 1901, he

again applied to Dr. Fuller for similar trouble. About this time he was seen by Dr. J. O. Hirschfelder and myself. The chemistry of the stomach was found to be fairly normal. Various methods of treatment were adopted for his relief without avail. He vomited almost constantly for several weeks during the latter part of December and was kept alive by rectal alimentation. His condition became deplorable. He grew pale and very thin, his weight being about 105 as compared with normal weight of 135 pounds. The abdomen was flat. Pressure over epigastrium caused pain. There was tension of right rectus. Bowels constipated. I regarded the case as one of cicatricial stenosis of pylorus, following gastric ulcer. On Jan. 6, 1902, assisted by Dr. Fuller, I opened the abdomen by a median line incision, two inches in length, below the xiphoid cartilage. The stomach was found to be contracted to a considerable degree. Its walls were pale and flabby. Over the pylorus there was a white, glossy cicatrix, presenting marked resistance, but giving no suggestion of malignancy. The duodenum for two inches below the pylorus was noticeably thinned and narrowed. A small exploratory incision was made three centimeters above the pylorus in the anterior wall of the stomach. Through this it was discovered that the pyloric orifice was narrowed to such an extent as to admit the tip of the index finger with difficulty. On attempting to dilate the pylorus with forceps, the peritoneal covering was abraided longitudinally in front. This determined me to a gastro-pyloroplasty. The exploratory incision was elongated and carried past the pyloric stricture into the duodenum. The length of this incision was about six centimeters. The

ends of this incision were brought together by a silk through-and-through stitch. The mucous membrane was closed in a transverse direction with a continuous silk suture, and the peritoneal covering was closed by Lembert sutures. The abdominal wound was closed in the usual manner. Time of operation, 48 minutes. Anesthetic, chloroform. The following morning he vomited about 8 ounces of blood-stained fluid. Small quantities of peptonized milk were administered on the fifth day, and the amount was gradually increased. Rectal alimentation was discontinued on the ninth day, but was resumed because of recurrence of vomiting on the twelfth day. On January 20 he was given calomel in small doses, which acted freely during the next two days. Five days later he was markedly improved, and stomach feeding was resumed. At the end of three weeks he could eat beefsteak and toast without complaint. Appetite good. His weight at this time was 100 pounds. He left the hospital on Feb. 11, 1902, 37 days after operation, weighing 111 pounds. At this time he ate freely a miscellaneous diet without distress. On February 20 he had a mild recurrence of the symptoms which were so prominent prior to operation. At this time his weight was 128 pounds. These symptoms quickly subsided, but on March 2 he again complained of nausea, pain, and vomiting, and is apparently again losing weight. During the month of March his condition has not been by any means satisfactory. His weight fell from 128 pounds to 115 pounds. He was obliged to leave his office, and has been part of the time in a private hospital. He is again, however, improving, and seems to be gaining weight. At times food is taken into

the stomach and digested without discomfort. At other times he suffers from distress an hour after eating, and a portion of the stomach contents will be regurgitated. It remains to be seen whether the improvement which was so pronounced during the first six weeks after the operation will be realized in the near or distant future. It is possible that the structural changes which were entailed by his former condition will require a protracted period during which repair can be expected to take place, and it is altogether certain that until such repair has been effected, the normal gastric function will not be established. There can be no doubt, however, that his present condition is much improved over that which preceded the operation. Report of condition, April 15. Patient is now eating solid food and gaining rapidly, his weight at the present time being 125 pounds. He is somewhat annoyed by hyper-acidity, which is relieved by drinking large quantities of Bartlett water. His appearance is that of a well-nourished, vigorous man.

Case 2. A married woman, about 35 years of age. Family history excellent. Has two children, the youngest nine years of age. About five years ago the right kidney was found displaced and movable. For the past four years has complained of gastric disturbances, which have been persistent and annoying. There was obstinate constipation, loss of appetite, a burning sensation at epigastrium, on taking food, and loss of weight. Medical treatment and foreign travel availed nothing. About two months ago she became pregnant, which condition was immediately followed by persistent vomiting. For this reason the pregnancy was artificially interrupted a few weeks later. Vomiting was relieved temporarily, but

soon recurred, and became incorrigible. I saw her Feb. 18, 1902, and obtained the following history: For the past five weeks the stomach has rejected everything ingested, either solid or liquid, and she has lived wholly by rectal alimentation. She had become very weak and exhausted. Pulse ranged from 100 to 130, at times irregular, and always feeble. The case seeming desperate, an exploratory incision was advised, based upon the suspicion that pyloric stenosis was accountable for symptoms present. With the assistance of the attending physician, Dr. G. A. White, of Sacramento, this was undertaken, Feb. 22, 1902. The stomach was found to be normal in size. The pylorus and adjacent stomach wall were greatly thickened, but there was no evidence of cicatricial deposit. The structural change was apparently hyperplastic. On opening the stomach, it was found that the pylorus grasped the index finger firmly, indicating a considerable degree of obstruction. The operation was completed as in the foregoing case. At the end of one week she began to take liquid nourishment by the mouth. She vomited occasionally during the first week, but was more comfortable than prior to the operation. On March 4, eleven days after operation, she was taking from 15 to 20 ounces of liquid nourishment daily, in conjunction with rectal alimentation. Two days she vomited several times. Pulse 130, strength failing. On March 12 she was seen by Dr. Moffitt, of this city, who advised omission of rectal feeding, and stomach feeding through a tube. Seventeen ounces of milk and two of raw eggs were at once introduced into the stomach by this plan. This was repeated every four or five hours for the following four days, during which time

she vomited but once. On March 16, began mouth feeding. Liberal amounts of liquid food were taken and retained. March 24. Still takes and retains a liberal amount of nourishment. Heart very weak; pulse rapid. To-day, on being placed in a reclining chair, she had an attack of syncope, and her condition seemed alarming. March 31. Is doing fairly well, but heart's action remains about as at last report. April 4. Heart's action improved, and for the first time since operation pulse registered 80. Present condition, April 14. Patient's condition is now altogether satisfactory. Takes a large amount of food, and all the functions are well maintained. Heart's action is fairly good; pulse ranging from 90 to 110.

The chief complication in this case has arisen from cardiac weakness. At the time of operation her condition was that of almost fatal starvation. Without doubt, there were acute degenerative changes in the heart muscles, which are gradually being overcome by a regenerative process. The continuous vomiting, which was an alarming feature of the case during the first 18 days after operation, was, undoubtedly, of a reflex or hysterical character, and due, possibly, to overcaution in the matter of stomach feeding. As soon as a liberal amount of food was placed in the stomach through the stomach tube, this symptom disappeared, and she has never vomited but once since that time, and then but a small amount.

406 Sutter Street.

INTRAVESICAL PROSTATIC LEVATOR FOR PERINEAL PROSTATECTOMY.

By LOUIS BAZET, M. D.

*Read before the Medical Society of the State of California
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Before giving the description of the instrument I have the honor to present

you, allow me a few moments of your attention to describe to you Baudet's technic of exposing the prerectal space. If you do not possess that knowledge, no depressors or levators of any kind will be of any use to you for the successful removal of the hypertrophied lobes of the prostate.

The prerectal space is opened by: A curved incision of the skin three-fourths of an inch anterior to the anus and extending on each side beyond the tuberosity of the ischions; incision of the cellular tissue and traction upon the rectum towards the left of the patient, to make tense the levator ani of the right side; incision of that muscle near the rectum as far as its superior aponeurosis; incision from before backwards of the median part of the muscle, avoiding the posterior anococcygeal bundles and, above all, the most internal fibers that are inserted on the anterior wall of the rectum; the incision to the right being executed. the same procedure applies to the left. This done, the operator puts his left thumb under the anterior bundle of the right levator in such a way that it is placed between the levator and the rectum; then he puts his left index between the anterior bundle of the left levator and the rectum in such a way that the anobulbar raphe and the two anterior bundles of the levator are pinched between the thumb and the index finger, and are separated from the rectal wall by these two fingers. Then incision of the anobulbar raphe, that is, the whole fibro-muscular mass comprised between the two anterior bundles of the levator without incising them.

It is then that the prerectal space is broken. To do it, the rectum is drawn backwards; then, leaving the knife aside, the pulp of the index is insinuated be-

tween the bundles of the levator, and engaged upward and forwards towards the prostate. In succession appear the prostate and all the prostato-peritoneal region. This step is easy of execution provided the operator keeps away from the rectum. When the detachment is completed, a cavity 3 to 4 centimeters deep is created; its boundaries are limited forwards by the prostate and the seminal vesicles, the vasa deferentia, and the intra-deferential triangle; backwards by the rectum; downwards by the peritoneal cul-de-sac; laterally by the sacropubic ligaments.

The term sagittal portion of the rectum is applied to the mass of anterior bundles of the levator, its superior aponeurosis, and to the conjunctive sheath that supports the middle hemorrhoidal vessels. This antero-posterior wall, flattened transversely, is put on the stretch when the rectum is pulled backwards. This is the wall that retains the rectum against the posterior face of the prostate, but free from any insertion with that organ. One or two forceps against that sagittal wall, very near the prostate, being applied, it is cut transversely from above downwards with scissors. This effected, the rectum being entirely freed on the anterior face, leaves the prostato-peritoneal region and falls upon the coccyx. The prostate is then uncovered.

It is now the time to open the membranous portion of the urethra at the apex of the prostate, to introduce the levator into the bladder, the concavity of the instrument being turned towards the pubis. When in the bladder, the instrument is turned with the beak towards the trigone. The instrument is designed to secure a firm hold on the prostate, and by tilting it to bring that organ from behind forwards, when it is firmly held by an assistant until the lobes of

tube is engaged with the other, the blades come together, but may be made to diverge by relative rotation of the outer and inner tubes on their common center. This tube protrudes from the handle of the outer tube sufficiently to permit its engagement into another piece which, being connected by a screw, prevents both tubes from moving alongside each other, but permits rotation. This piece carries a ratchet having teeth one-third of its periphery, and which is controlled by a spring. Through this piece irrigation of the bladder can be made. The two tubes, then, can be secured in any desired relative position by turning with one hand the milled wheel attached to the inner tube and to its connecting blade, while the other hand holds the outer tube stationary with the blade attached to it. Lastly, the instrument can be made aseptic at any time.

908 Geary Street.

EPITHELIOMA OF THE UPPER LIP; REMOVAL OF THE LIP AND ITS RECONSTRUCTION.

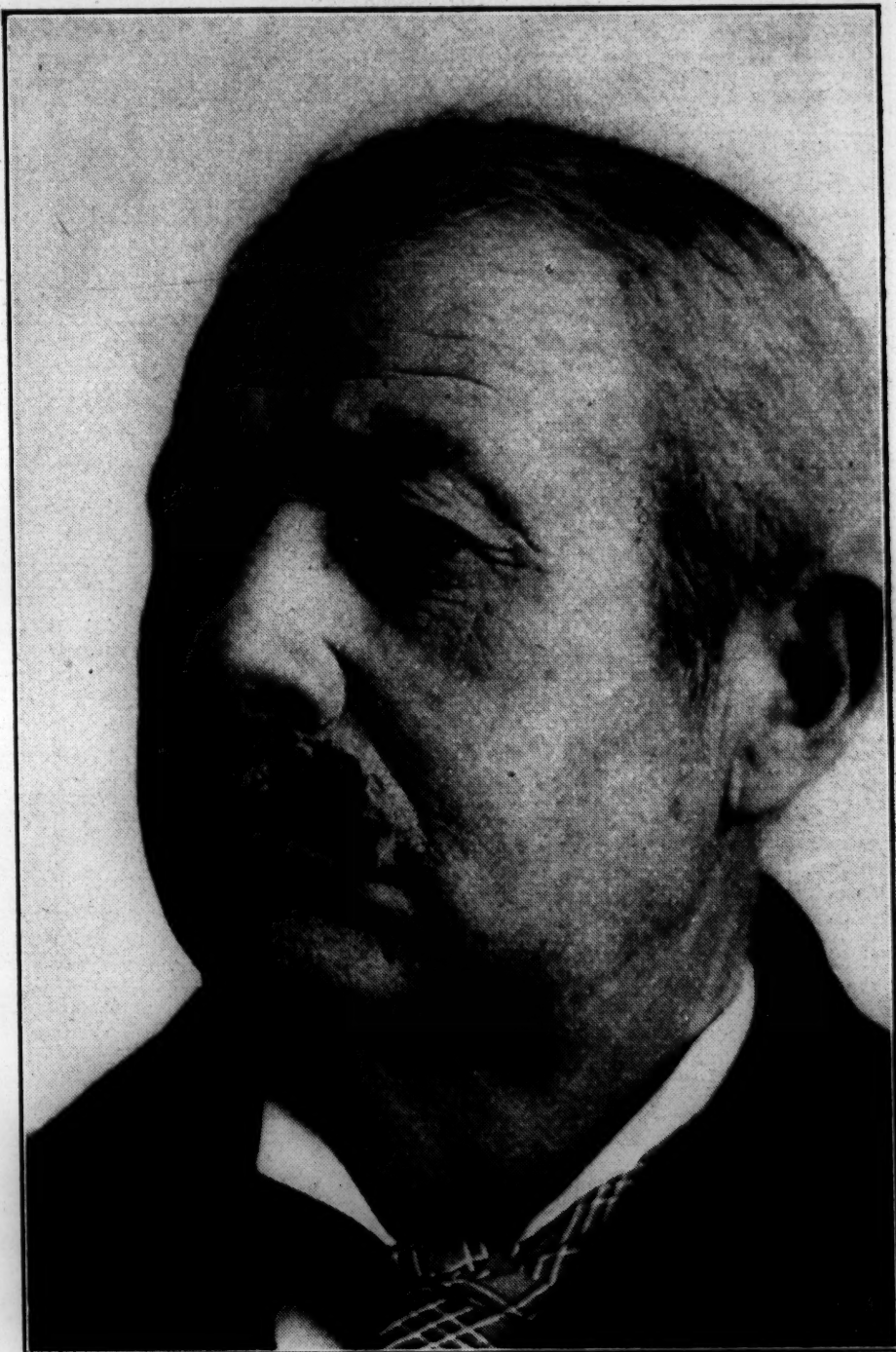
By DOUGLASS W. MONTGOMERY, M. D., and
H. M. SHERMAN, M. D.

*Demonstrated before the California Academy of Medicine
April 29, 1902.*

THE HISTORY AND DEMONSTRATION OF THE CASE.

Doctor Montgomery: The patient has been demonstrated to you before, at the October meeting, as an instance of epithelioma of the upper lip. To recapitulate the history: He was a man 62 years of age, and well preserved, and had first consulted me on Oct. 8, 1901, on account of an epithelioma of the upper lip. His habits were good. He smoked but two pipes of tobacco a day and did not drink, and had never had any venereal disease. There

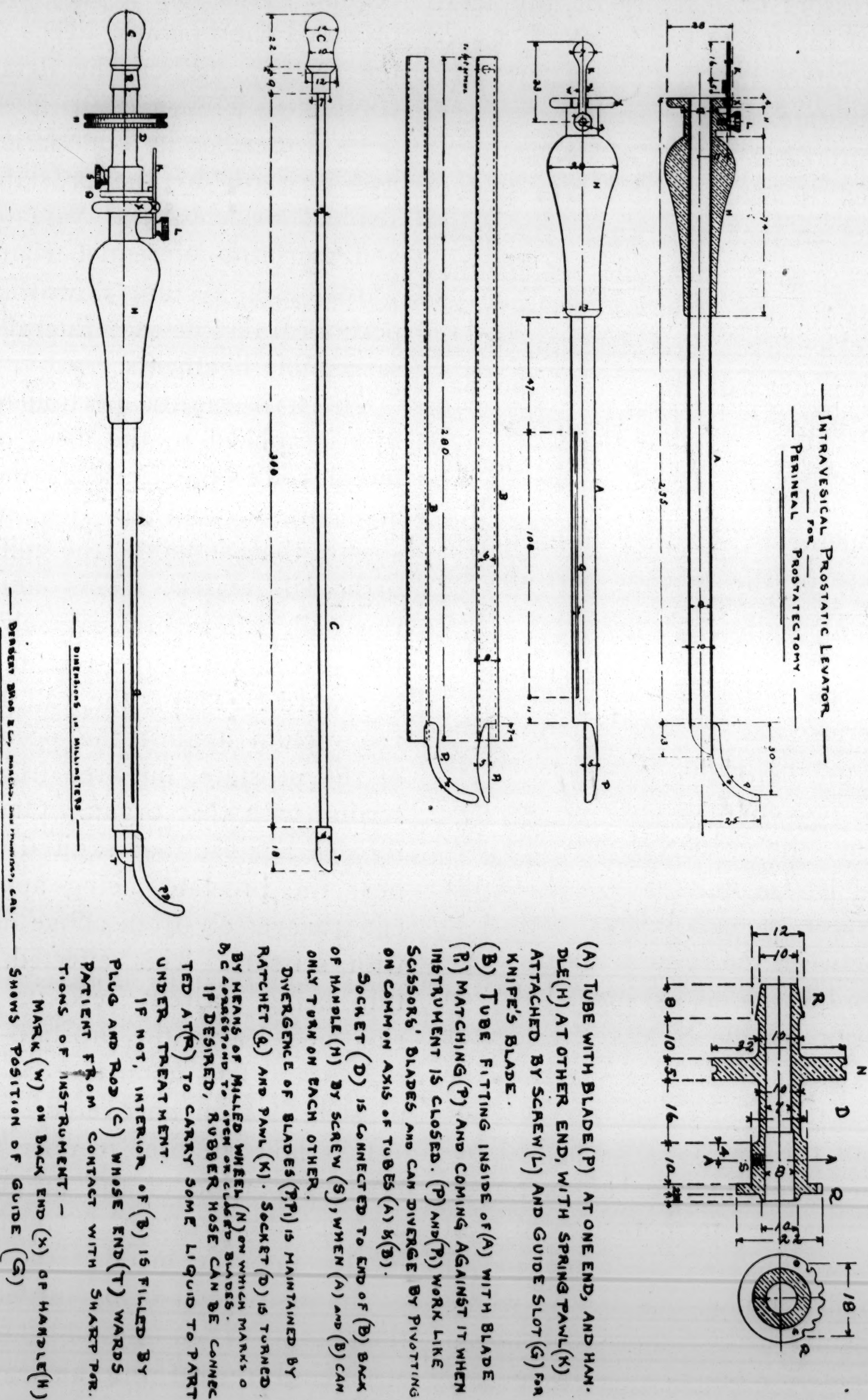
was no history of malignancy in his family. He was one of a family of nine children, and his father, who, by the way, was 72 years of age when the patient was born, had been a particularly healthy man. Fifteen years ago a growth had appeared on the vermilion border of the right side of the upper lip, where there is now a scar. This scar, which is pliable, soft, and healthy



looking, lies a couple of lines from the right angle of the mouth, and is the result of an operation for the removal of the above-mentioned growth, performed by Dr. Smith, of Santa Rosa, about eight years ago. Soon after the removal of this growth, another appeared on the vermilion border of the left side of the lip, where there afterwards developed an immense ulcerated patch, with raised rolled borders and deep induration. Within the upper border of this ulcer there was a large cu-

the prostate are laterally loosened from the capsule and the hemisection in the posterior part of both the prostatic urethra and prostatic lobes is effected.

the instrument has the form and the curve of a lithotrite. The outer tube has a blade at one end and a handle at the other end, where a spring is at-



The instrument is composed of two metallic tubes, an outer and inner tube. These two tubes rotating one upon another, open and close on the same principle as scissor blades. When closed,

attached by a screw. This tube is slotted to form a guide for the bistoury blade. The inner tube fits exactly into the outer one; it has a blade similar to the one of the outer tube, so that when this

tube is engaged with the other, the blades come together, but may be made to diverge by relative rotation of the outer and inner tubes on their common center. This tube protrudes from the handle of the outer tube sufficiently to permit its engagement into another piece which, being connected by a screw, prevents both tubes from moving alongside each other, but permits rotation. This piece carries a ratchet having teeth one-third of its periphery, and which is controlled by a spring. Through this piece irrigation of the bladder can be made. The two tubes, then, can be secured in any desired relative position by turning with one hand the milled wheel attached to the inner tube and to its connecting blade, while the other hand holds the outer tube stationary with the blade attached to it. Lastly, the instrument can be made aseptic at any time.

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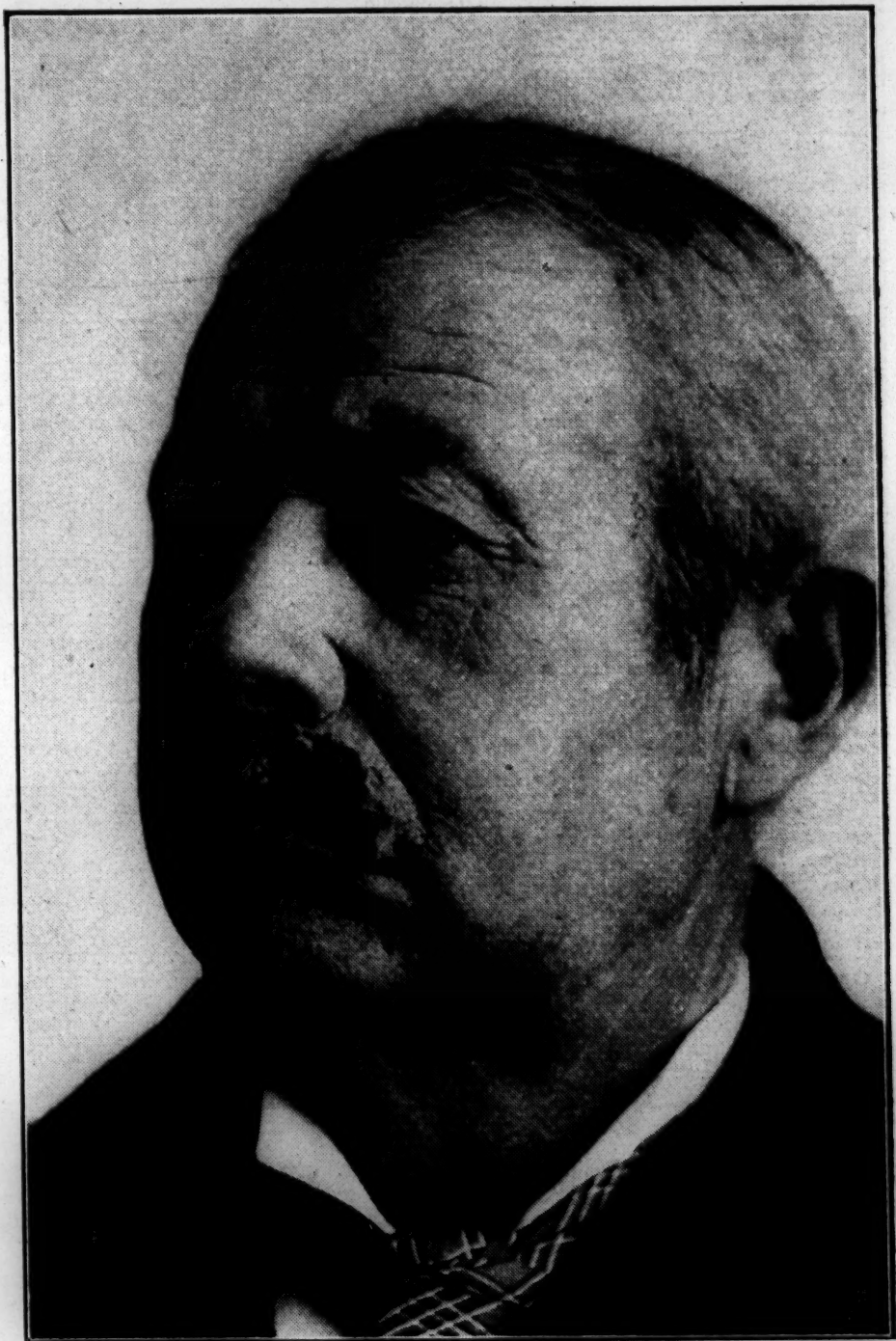
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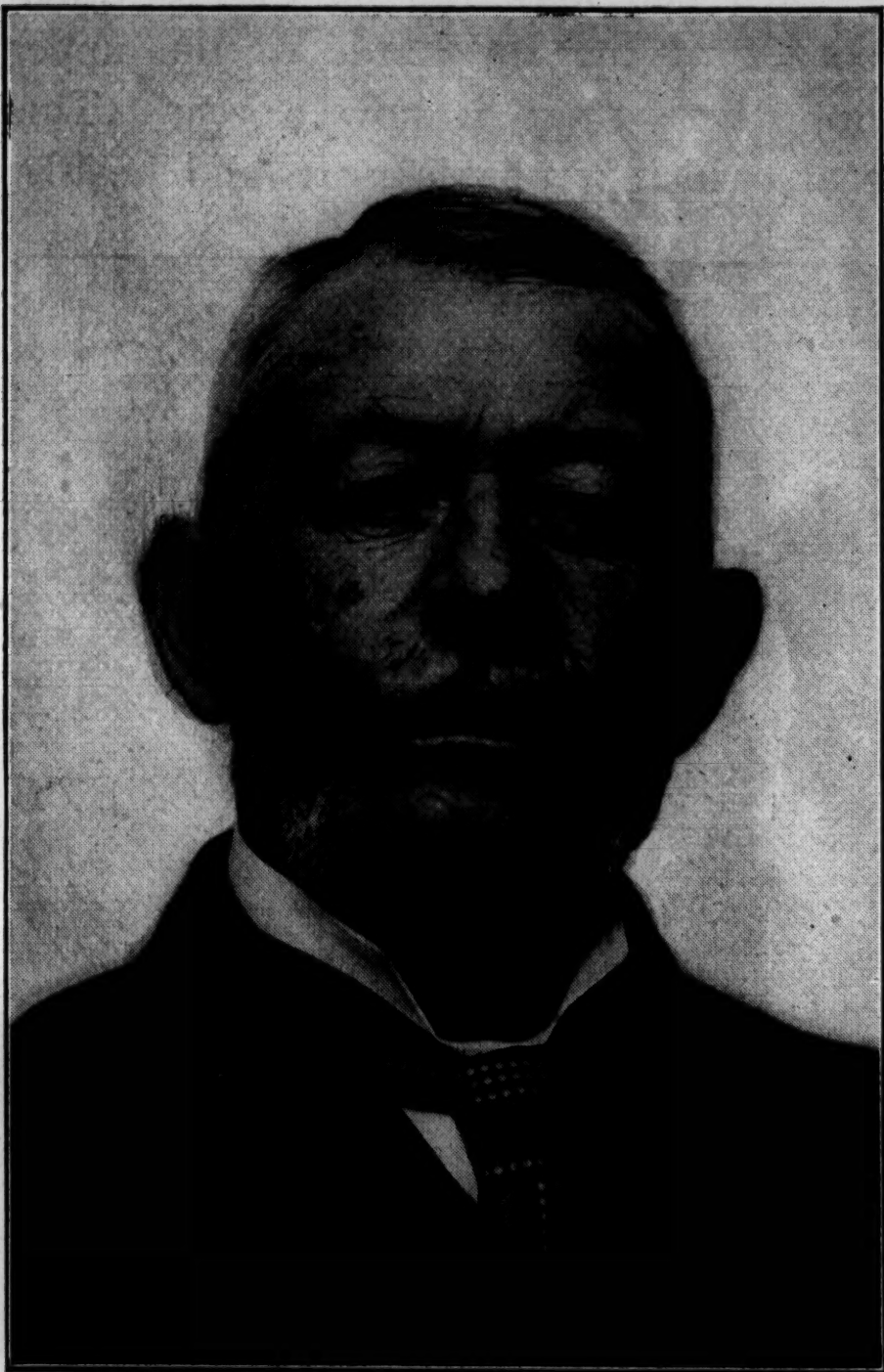
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taneous horn springing up from a rolled base, like a dead branch from the trunk of a tree. This cutaneous horn was of comparatively recent growth, and did not precede the ulcerated surface. Within the last two or three years an-



other growth had appeared on the vermilion border of the upper lip, to the right of the median line, but well removed from the above-mentioned scar. This growth, previous to commencing treatment, was oval, well circumscribed, raised, indurated, and had a surface dotted with milky-white spots. Neither of the growths on the upper lip was either painful or particularly tender. The upper front teeth were in bad condition, but there were no points or rough surfaces that would jut out or excoriate the upper lip. A warty growth had been cut out of the shell of the right ear six years before, and there was a senile wart on the top of the shell of

the left ear. The patient had a flat wart on the back of each hand. There was no lymphatic engorgement either of the submaxillary, submental, or parotid lymphatic nodules, or of those at the angles of the lower jaw.

A microscopical examination of a piece removed from the inner edge of the large ulcer of the upper lip showed well-marked epitheliomatous infiltration, with pearl formation.

The X-ray treatment, which was begun Oct. 10, 1901, was continued, with the kind assistance of Dr. Howard Morrow and Dr. Pring, up till the operation by Dr. Sherman, on the 10th of February, 1902. That is to say, the X-ray was given three times a week for sixteen weeks. It had the effect of causing extensive sloughing of the surfaces of the epithelioma, but the cancerous process proceeded, as far as one could judge, unchecked in the depth of the growth. Dr. Howard Morrow, after Dr. Sherman's operation, made a microscopical examination of the tissue removed. This examination showed a typical epithelioma. The superficial epithelial cells which were exposed to the X-ray were necrotic. Those in the depth of the tumor, however, were unchanged. The result of this examination would appear to support the assertion of Sholtz* that the therapeutic effect of the X-ray is a superficial one, and does not affect the deeper tissues. As far as could be judged from the microscopical appearances, the growth was removed far beyond the epithelial infiltration.

THE OPERATION.

Dr. Sherman: The man was operated upon at St. Luke's Hospital, Feb. 10, 1902. The Sedillot operation was done,

* Arch. f. Derm. u. Syph. Bd. 59, Heft I.

THE PROPERTY OF AND MUST NOT BE TAKEN FROM
 THE HAHNEMANN HOSPITAL COLLEGE
 OPERATIVE TREATMENT OF FIBROMYOMATA UTERA.

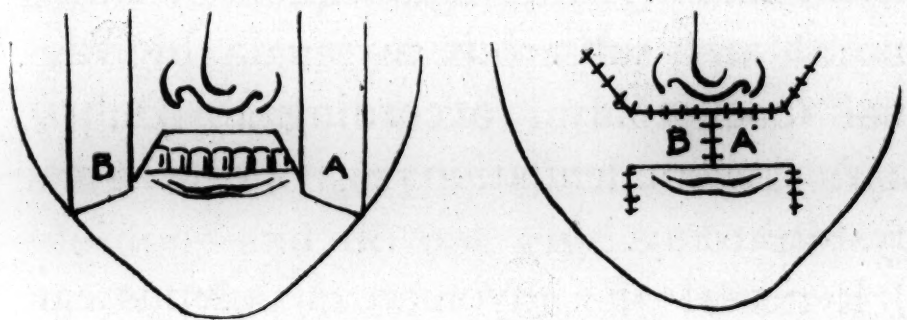
By F. W. VOWINCKEL, M. D., Surgeon in
 Charge of the California Woman's
 Hospital, San Francisco.

consisting of the removal of the entire upper lip by incisions which extended directly upwards from the corners of the mouth, and then were joined by a horizontal incision close to the alæ and septum of the nose. Flaps consisting of all the tissues of the cheek were then cut from below and on either side of the mouth, and brought together in the place of the removed lip. They met easily in the middle and were sutured together and to the sides of the gap by silkworm gut through and through stitches, and by superficial horsehair coaptation stitches. Along the free border of the lip the mucous membrane was

I must confess that, when I began the preparation of my paper on fibromyomata of the uterus, the material overwhelmed me, and I found that it would be impossible to give anything like a complete treatise on the subject in the time allotted to each speaker. I was forced, therefore, to limit the subject, and have confined myself in the paper to a short review of my personal experience with the operative treatment of fibromyomata since 1893.

I first want to express my full indorsement of the opinion of operators who assert that the simple fact that a fibromyoma has been discovered, except when cystic, is not an indication for its removal. Fibromyomata and ovarian tumors differ in this respect. While the ovarian tumor always grows, and sooner or later endangers life, the fibromyoma in many instances remains stationary and gives few or no symptoms.

To determine the question of the advisability of an operation, it should be considered whether the patient is young or near the menopause, keeping in mind the fact that the menopause frequently comes later to women afflicted with intramural or submucous fibroids. Fibroids generally stop growing after this epoch, and often shrink in size. It has to be taken into consideration whether the patient has to work for her living or is moving in the easier walks of life, which permit her to take better care of herself, to rest when necessary, etc. But we have also to realize that to-day, with our improved technic and better results, we are frequently able to give back to a patient her health and the ability to enjoy life, by an operation,



united to the skin so as to form a vermillion border. The gaps left by the transplanted flaps were easily closed by sutures, the lax tissues of the cheek lending themselves readily to the necessary sliding. After a couple of weeks it became necessary to remodel the edge of the lip by removing a strip of integument .5 to .75 cm. wide across the whole lip, because of contraction inside of the mouth and the inversion of the edge. On planning the size of the original flaps, they were cut 25 per cent larger than the place they were to fill, so as to allow for shrinkage, and this seemed to have been a little too great a margin.

At present the lip is a perfectly serviceable one, and is not unsightly, as the illustration shows. It is a little snug across the teeth, but that is expected to remedy itself with time.

1301 Van Ness Avenue.

while in former years it would have been an unjustifiable risk to proceed actively. The conscientious gynecologist will have to weigh the probable danger of the operation and its results against the complex of symptoms produced by the presence of the tumors and the dangers resulting from them or their complications, and proceed accordingly.

Suppose we have come to the conclusion that a radical procedure is necessary in a case; the first question that arises is, Which had we better choose, the abdominal or the vaginal route? While in many cases there can be no doubt as to which is the better way to proceed, there are others in which either method can be favorably considered, and much will depend on circumstances and the individual inclination of the operator. Nearly all operators concede to-day that no fibroid tumor ought to be attacked by the vaginal route when it can not be easily pressed into the pelvis; but even amongst the smaller tumors there are many which are better attacked from the abdominal wall. I, personally, have a preference for the abdominal way, and choose it whenever conditions do not clearly point toward the advisability of a vaginal operation.

I will not consider in this paper the value of palliative measures like curettement to control menorrhagia resulting from the presence of fibroids. I will only mention that I have ligated twelve times the arteriæ uterinæ from the vagina, hoping to produce shrinkage of fibroids, following the advice of Rydygier, F. H. Martin, Gottschalk, and Kustner, and I have come to the conclusion that this method may be valuable in some selected cases, when the tumor or tumors originate from the lower segment of the uterus, are not large, and derive their blood supply chiefly from the arteriæ uterinæ.

I will state that in one case, where there was an intramurally-developed fibroma the size of an orange, menorrhagia, and pain, and the patient refused a radical operation, fourteen months after the ligation the tumor was expelled from the uterus in a necrobiotic condition, and the patient got well. It may have been a coincidence, but it is more probable that there was a causal connection between the ligation of the arteriæ uterinæ, the necrobiosis of the tumor, and its final elimination.

Four kinds of more or less radical operations are performed per vaginam: (1) The removal of myomatous polypus; (2) the enucleation of submucous myomata; (3) the enucleation of intramural and subserous myomata by vaginal coeliotomy (according to Duhrsen's recommendation); (4) vaginal hysterectomy.

Removal of a myomatous polypus can be considered a radical operation only with the proviso that new myomata may appear which have not been felt during the operation; but for the time being the operation cures and removes the symptoms. In some cases torsion of the pedicle is sufficient for the removal. As a rule, I prefer to incise the capsule and enucleate the myoma. If only the pedicle is cut, it may happen, when a partial inversion of the uterus had been produced, that the cut penetrates the uterine wall and opens the peritoneum. If enucleation is performed, only the capsule and some muscle fibers leading to the tumor remain. With the incision of the capsule the operation is always very simple and the bleeding moderate. The cases where the tumor is still above the internal os are more difficult; but if the cervix is previously dilated, either by laminaria or firm tamponing of the uterine cavity with iodoform gauze, for twenty-four hours, it can be followed

by dilation with some dilator made in accordance with the principles of Hegar's dilators. I find Kelly's old urethral dilators very useful for this purpose; the finger can be introduced, the diagnosis made, and frequently the tumor removed after the capsule has been incised and the myoma grasped with strong forceps. In some cases the cervix is too narrow for the manipulations, but the paring off the bladder from the anterior uterine wall after a transverse incision above the cervix, as done in vaginal fixation, is generally easy. A longitudinal incision through the middle of the anterior wall of the cervix can then be made above the internal os, without risk of opening the peritoneum, and enough room gained for the enucleation. I prefer this cut to incisions on both sides of the cervix, which create more bleeding and do not give such free access to the tumor. It is easy afterwards to close the uterine incision and stitch the vagina over it. I have operated in this way in eight cases, with or without incision of the uterus, without a death; but, except in one additional case, where I had to finish the operation by abdominal section, on account of tumors which could not be reached from below, I never resorted to morcellement. I always finished the operation in one sitting, and have never left the expulsion of a submucous myoma to nature after an incision through the capsule. There is too much danger of septic infection in this procedure, which is now mentioned only once in a while by some operators.

Duhrssen's method of removing intramural and subserous fibroids by vaginal coeliotomy (opening of the anterior cul de sac, paring off of bladder, and pulling the uterine body out of the incision) I have used seven times, without a death. The tumors were sometimes multiple, but always small, and the operation was

in most instances performed on account of retro-displacement of the uterus, with development of myomata in its walls. The vaginal coeliotomy, with enucleation of the tumors and closing of the uterine wounds, was here always finished by vaginal fixation of the uterus. Sometimes it is advantageous to open the posterior cul de sac of the vagina and then enucleate an intramural or subserous fibroid developed from the posterior wall of the uterus. Myomata of the cervix can frequently be enucleated without difficulty from the vagina. In the cases of this class I have had to deal with; the tumors were always too large to be attacked from below, and were operated on by abdominal section.

Vaginal hysterectomy on account of fibromyomata I have performed seven times, with one death from sepsis. Some of these cases I operated using ligatures; in others I used clamps when the uterus could not be pulled down sufficiently to enable me to place ligatures conveniently.

While I have performed only 22 vaginal operations for fibromyomata since 1893, not including the cases of ligation of the arteriæ uterinæ, I can report 101 abdominal sections performed by me for fibromyomata during the same time, with 9 deaths. Sixty-one of these cases were treated by supravaginal amputation, with 4 deaths; 31 by panhysterectomy, with 5 deaths; 9 by enucleation and myomectomy, without a death. Amongst the 61 cases treated by supravaginal amputation there were complications with intraperitoneal adhesions, with or without oophoritis and perioophoritis, 20 times; with ovarian tumors, with or without adhesions, 7 times; with parovarian cysts, 2 times; with pyosalpinx and ovarian abscess, 1 time; with pyosalpinx, ovarian abscess, and appendicitis, 1 time; with pelvic abscess, 1 time; with

Graves' disease, 1 time; total, 33. No complications were found in 28 cases. The 31 cases treated by panhysterectomy were complicated by adhesions, with or without oophoritis, perioophoritis, and salpingitis, 10 times; by ovarian tumors, 4 times, one of which was also complicated in addition by appendicitis; by ovarian abscess and pyosalpinx, 3 times; by sloughing of tumors, pus in tumors, and pelvic abscesses, 3 times; total, 20. No complications were met with in 11 cases. Nine cases were treated by enucleation or myomectomy. Complications with pregnancy occurred 2 times. In one case pregnancy proceeded without interruption; in the other case abortion followed, for which the operation was not responsible. Adhesions were found 5 times, with or without oophoritis and perioophoritis, and no complications were detected in 2 cases. All the patients treated by enucleation recovered. Of the 101 cases treated by abdominal section, there were complicated—by adhesions, with or without inflammatory changes about the adnexa, 35 (3 deaths, 1 from sepsis, 1 from embolism, 1 from shock); by ovarian tumors (one patient had chronic appendicitis in addition), 11 (1 death from shock); by parovarian cysts, 2; by pyosalpinx and ovarian abscess (one with chronic appendicitis in addition), 5 (1 death from sepsis); by intraperitoneal abscess and abscess in abdominal wall, 1 (1 death from sepsis); by intraperitoneal abscess, abscesses in tumors, and general peritonitis, 1; by sloughing of tumors and abscesses in tumors, 2 (1 death from edema pulmonum); by pregnancy, 2; by Graves' disease, 1; total, 60; 7 deaths; uncomplicated, 41; 2 deaths from yellow atrophy of the liver.

In four of the cases I had to deal with cystomyomata; in two cases the myoma was twisted around its pedicle;

in one case castration had been performed (elsewhere) nine months previously, without benefit. In another case of laparotomy for symptoms created by a submucous myoma of the fundus, dermoid tumors of the ovaries had been the cause for a previous laparotomy, in which a small piece of ovary had been left. In one case a laparotomy had been performed (elsewhere) twenty months previously, but without removal of any organ.

Drainage was employed after supravaginal amputation of the uterus—through the lower angle of abdominal incision and vagina, 1 time; through lower angle of abdominal incision alone, 4 times; through vagina alone, 3 times; total, 8 times (one death from sepsis, where there had been complications with intraperitoneal abscess and abscess in abdominal wall). Drainage was employed after panhysterectomy: Through abdominal incision and vagina, 2 times; through abdominal incision alone, 2 times; through vagina alone, 4 times; total, 8 times (one death from shock). Drainage was employed after enucleation 2 times. Drainage was employed altogether in the 101 cases: Through abdominal incision and vagina, 3 times; through abdominal incision alone, 8 times; through vagina alone, 7 times; total, 18 times, with two deaths, in spite of, not on account of, the drainage.

In regard to complications arising during convalescence there occurred: Phlegmasia alba dolens, after supravaginal amputation of the uterus, 2 times; after panhysterectomy, 1 time; total, 3 times. Parotitis, after supravaginal amputation, 1 time; after panhysterectomy, 1 time; total, 2 times. Abscess in abdominal wall occurred 3 times.

Amongst the 101 women operated upon by abdominal section there were between 20 and 30 years old 5, the

youngest patient being 22 years old; the tumor weighed $13\frac{1}{2}$ pounds. Another patient was 26 years old, with a tumor of $12\frac{1}{2}$ pounds weight. Between 30 and 40 years old there were 45; between 40 and 50 years old, 47; above 50 years old, 4; total, 101.

Of the 101 women, there were, nulliparæ, 57; had borne 1 child, 18; had borne 2 children, 11; had borne more than 2 children, 14; and the number of children unknown in one case.

Seventy-seven women were married; twenty-four were single.

I found in the 123 cases of fibromyomata I operated radically on, either by abdominal section or by vagina, but 1 case, in a patient 48 years old, afflicted with multiple fibroids, complicated by a multilocular papillary ovarian cystoma of the right and an unilocular cystoma of the left side, where a secondary sarcomatous degeneration of one of the fibroids had taken place. An apparently radical operation was performed (Feb. 19, 1897), whereby uterus and adnexa were removed completely by abdominal section; but about a year afterwards multiple hard abdominal tumors had formed again, and the patient died finally, as her physician informed me, from the metastases. Since no post-mortem examination was made in this case, we can not be sure whether the papillary ovarian cystoma or the fibrosarcoma of the uterus was responsible for the recurrence of the affliction.

Secondary sarcomatous degeneration of fibroids is certainly not very frequent. It has been claimed in favor of abdominal panhysterectomy, in contradistinction to supravaginal amputation, that by the former operation the useless cervix was removed, which might later become the seat of carcinoma. True, the cervix is removed, but my experience does not give me the impression that the danger

of carcinomatous degeneration of the stump after supravaginal amputation of the uterus for fibroids is any greater than it is under ordinary circumstances. I have seen in my gynecological practice only one case of carcinoma of the cervix after the uterine body had been removed by supravaginal amputation, by another surgeon, a few years previously, and I was then unable to verify the statement of the patient that the presence of fibroids had been the cause for the operation performed on her.

I never favored castration as a method to cure symptoms produced by the presence of fibromyomata. It seems to me, as it does to many other operators, irrational to remove two healthy organs on account of a diseased one, which you leave behind. Few operators to-day recommend this procedure, which ought to be resorted to only when the removal of the tumors themselves seems to be impossible or too dangerous under the circumstances, and both ovaries can be removed completely. It happened to me only once that I had to leave the main mass of the tumors behind. They had developed intraligamentously on both sides, originating from the anterior wall of the collum uteri, pressing the corpus uteri back and down, so that the cervix appeared in the vulva. The tumors reached upward to midway between symphysis and umbilicus; the patient was 47 years old and was suffering from severe pressure symptoms. Abdominal section was performed Nov. 9, 1897. Owing to intraligamentous development, the tumors could not be raised out of the pelvis. The infundibulo-pelvic ligaments were ligated with catgut, and the anterior layer of the broad ligaments severed to within a short distance of the horns of the uterus after the round ligaments had been ligated and severed.

An incision was then made through the peritoneum of the anterior surface of the uterus, and an attempt made to pare the bladder free from the underlying tumor. The mass beneath was so soft and vascular that this was found to be dangerous, owing to severe hemorrhage. Strong clamps were freely used, but it was very difficult to control the bleeding. On account of the critical condition of the patient, it was considered best only to remove the ovaries and to amputate the uterus; so a silk ligature was used as a constrictor at the level of the internal os, and the uterus was amputated. The cervical canal was cauterized and a wedge-shaped portion excised. The stump was then sutured over with interrupted catgut sutures, and the peritoneum drawn over it with sero-serous sutures. There being considerable oozing, two iodoform gauze tampons were carried down into the pelvic cavity through the abdominal incision. The abdominal wall was closed with three rows of silkworm gut sutures, except where the tampons protruded. The patient recovered. When leaving the hospital, the vagina was long, the cervix high up, the tumors smaller and harder. No complaints. When I saw the patient again, about three years later, the tumors had shrunk to about one-fifth of their original size, were hard, and gave no trouble.

While I never castrated on account of fibromyomata, I was once forced to perform a very difficult supravaginal amputation of the uterus on a woman 38 years old, 9 months after castration had been performed elsewhere for fibroid tumors. In spite of the previous operation, which had been followed by general peritonitis, the tumors continued growing, created pressure symptoms in the pelvis, metrorrhagia, and bleeding from the rectum. The supravaginal amputa-

tion was performed April 7, 1893. The patient recovered. Hoffmeier expressed as his opinion that the effect of castration was chiefly due to the ligation of the spermatic vessels, basing his opinion on the results he saw from the removal of senile atrophic ovaries in cases of women past the menopause. Rydygier ligated all six arteries of the uterus, but came to the conclusion that the value of the operation was only palliative. I have no personal experience with this method, and do not think that it finds any advocates to-day.

As I stated before, enucleation of fibromyomata and myomectomy I have performed nine times. All the patients recovered. In two of these cases the fibroids were complicated with pregnancy. In the first instance the patient was a 38-year-old multipara, who had been confined last time ten months before consulting me, in April, 1899. Her menstruation, which since the last childbirth had been irregular, had not appeared for seven weeks. I found the uterus enlarged to the size of a uterus at the end of the second month of pregnancy, pressed forward and to the left by a pretty soft and immovable tumor the size of a small fist, developed in the right broad ligament, and behind the uterus, and not definable from the uterus. The tumor had been noticed by the physician attending her during her last confinement, when it delayed the descent of the head. The tumor had grown since. Fearing serious complications during the next confinement, I advised operation, which was performed on April 21, 1899. The uterus was found studded with small fibroids, soft and bluish in color. To the right and behind the uterus, developed intraligamentously, was found a soft myoma the size of a fist. Some adhesions posterior to this were broken up, the ligament

opened, and the tumor shelled out from its bed. The pedicle, which was attached to the right of the body of the uterus, was ligated with two catgut sutures passed through its center and tied on both sides, and then one single catgut suture was passed around the whole pedicle, which was severed, and later covered by peritoneum. The peritoneum of the broad ligament was closed with catgut sutures after the right ovary, which was considerably enlarged, had been removed, together with the tube, in a typical manner. Owing to some oozing deep down on the floor of the pelvis, where the peritoneum was damaged, an iodoform gauze tampon was introduced, and the wound closed as usual in three layers, except where the tampon protruded. I did not remove the small, intramural fibroids at this time, fearing to produce interruption of the pregnancy, and also did not feel justified on their account to remove the left ovary in addition, which was apparently normal. The convalescence was uninterrupted, but about a month after the operation an abortion occurred. Only several days after the operation I learned that the assistant, who was expected to disinfect the patient before the operation, and who had been informed of my diagnosis of fibromyoma complicated by pregnancy, had left the vaginal disinfection to another assistant, without telling him about the suspected pregnancy. In a routine way this assistant had disinfected the vagina and also irrigated the uterus. The enucleation of the fibromyoma can therefore not be made responsible for the abortion.

In the other case, operated the 10th of May, 1901, the patient was 31 years old, and pregnant the first time; last menstruation Jan. 25, 1901. Dr. L. Pawlicki having been consulted about the pregnancy, had discovered, besides

pregnancy in the fourth month, abdominal tumors, and he sent the patient to me. I found the uterus enlarged to the size of a uterus in the fourth month of pregnancy, and on either side elastic tumors, one oval, one kidney shaped, the size of a large apple and medium-sized Irish potato respectively. The tumors were closely connected with the uterus, especially the one on the right side, and showed only slight mobility. Owing to the fact that the location and shape of the tumors made it doubtful whether we had to deal with ovarian tumors or myomata, laparotomy was advised, and the operation performed on the date mentioned. The tumors proved to be myomata; the kidney-shaped tumor posteriorly and to the left of the uterus was subperitoneally developed. Its base was circumscribed by an oval incision, the tumor enucleated, and its site closed with interrupted catgut sutures. The tumor to the right had developed intramurally. It was enucleated, after an incision had been made through its capsule, and its site was closed with a layer of deep and one of sero-serous catgut sutures. Three other small fibroids were removed from the anterior wall of the uterus, and their sites closed with catgut, and two were left, one in the posterior wall close to the internal os, the size of an English walnut, the other underneath the bladder in the anterior wall, since they had developed so deeply that their removal seemed risky. There had been only a moderate amount of bleeding during the operation, and it was remarkably easy to enucleate the tumors out of their bed in the pregnant uterus. The abdominal incision was finally closed in four layers, running catgut being used for the peritoneum and muscles and fine interrupted silk for the fascia and silk-worm gut for the skin. The day following the operation a few uterine con-

tractions were felt, but they stopped after a morphin injection, and were not noticed again. The convalescence was uninterrupted, and on Nov. 6, 1901, a healthy child was born spontaneously after an easy labor. The mother is nursing her child yet, and when I saw her last, a few weeks ago, I found absolutely normal conditions, and was unable to detect any trace of the fibroids left behind. As a curiosity, I want to mention that I had operated on a sister of this patient, 33 years old, Aug. 10, 1900, on account of large, multiple fibromyomata, performing supravaginal amputation of the uterus.

A few more words about enucleation and myomectomy in general. Several of the gynecological text-books contain pictures showing the technic of the operation, which might give the impression that an abdominal section ought to be advised simply on account of the fact that there are present a few small irregularities of the uterine surface, produced by fibroids the size of a hempseed to a cherry. You see pictures showing normal adnexa and a fundus of the uterus covered with these small growths and the demonstration of the proceedings during their enucleation. It is certainly instructive, but we ought to remember that these small, subserous tumors generally do not give any symptoms necessitating an operation, or if there is menorrhagia, that there must be other tumors near the mucous membrane which are responsible for it, and that the enucleation of the small, subserous tumors would not cure the menorrhagia. It is well to remove small growths of this kind during abdominal sections performed for other reasons. These small, subserous tumors alone do not produce symptoms, while submucous ones in addition, producing symptoms which can not be relieved otherwise, de-

mand the removal of the uterus. We ought not to go too far in conservatism, but should always keep in view the reason why we decide to operate. If we can relieve the symptoms and remove all the myomata by an operation preserving the uterus, at least of a woman in child-bearing age, without incurring too much risk of her life by this conservatism, enucleation and myomectomy are the ideal operations. The object of our operations for fibroids must be, however, to relieve the patient, if possible, permanently from her distressing symptoms, with as little risk to her life as we can; and conservatism belongs only to the ways and means to this end, and must not be made the sole object.

In my 61 supravaginal amputations of the uterus for fibromyomata, the stump was treated: Extraperitoneally, 1 time; intraperitoneally, 36 times; retroperitoneally, 24 times. The extraperitoneal method, on account of the complicated after-treatment and the weak spot it leaves in the abdominal wall, has been abandoned by most operators, except in special cases. The only case in which I used the method was an exceptional one in many respects. Operation Nov. 25, 1893; patient 48 years old, married, nullipara. Very large multiple, cystic fibromyomata, developed in right parametrium, extending to the liver. Uterus rotated around its axis, so that a large unilocular cyst of the right ovary was found on the left side of the abdomen, containing about two quarts of a chocolate-colored fluid. This cyst was firmly adherent to the rectum and the cystofibroma. Ovarian cyst tapped and freed, cystic fibromyomata enucleated, uterus amputated, leaving a stump 9 cm. long. On account of profuse oozing, tamponade of the bed of the tumor with iodoform gauze and extraperitoneal treatment of the stump, since the low con-

dition of the patient did not permit any extirpation of it. Eleven days later parotitis dextra, lasting ten days. In the meantime profuse discharge of serous fluid (more than a quart daily) through drainage opening; no pus, the accumulating fluid distending the abdominal walls almost uniformly. On Feb. 13, 1894, exploratory incision of the abdominal wall proved that there was no free fluid in the abdominal cavity, the fluid accumulating altogether in the former bed of the tumor. Abdominal incision closed; drainage opening enlarged by cutting to the right, followed by curetting of the sac and removal of several silk ligatures. Counter opening made in the vagina by pushing forceps behind the stump down into it; iodoform gauze drawn through the counter opening for drainage. April 26, 1894, the discharge of clear serous fluid from the abdominal opening and counter opening in vagina considerably diminished, but some retained fluid always found in the sac, which did not collapse, apparently on account of the hard stump which formed part of the sac walls. It was perfectly immovable, 9 cm. long, and thicker than a normal uterus; vaginal removal of the stump without opening of the general abdominal cavity. A few months later patient left the hospital, with a small fistula in the vagina, from which sero-purulent fluid escaped; abdominal wound closed, no pain.

There has been a good deal written about intraperitoneal and retroperitoneal treatment of the stump, different operators favoring different methods, and using for their respective methods different denominations. I agree with Zweifel that the main difference between both methods rests in the fact that in the intraperitoneal method the size of the stump is irrelevant. The arteriæ uterinæ are ligated on a level with the

cut through the uterus, or directly below, and always after the arteriæ cervico-vaginales have branched off. The result is that the stump, being still amply supplied by blood, requires further hemostasis by sutures passed through the stump in one of the many methods recommended for this purpose before the peritoneal flap or flaps can be stitched over it. On the other hand, in the retroperitoneal method the stump has always to be very small, and either the main trunks of the arteriæ uterinæ are ligated before the arteriæ cervico-vaginales branch off, or these arteries are ligated also low down, almost at a level with the external os of the uterus. I have followed the recommendations of different authors in different cases, according to the individual conditions of the same. Each method can produce excellent results, if it is followed out aseptically, each, which vouchsafes a perfect hemostasis, without impairing the remaining tissues, and especially the uterine stump, too much in their vitality, and requires a covering of the pelvic floor with healthy peritoneum. With Zweifel I consider it important to ligate the veins as well as the arteries, since otherwise during vomiting or coughing blood may flow back through these large, valveless vessels. This is apt to produce the soil for septic infection, and to favor also the infection of a thrombus, and to lead to embolism. I never drain through the cervical canal, but have always made it a point to destroy with the thermocautery and excise the mucous membrane close to the cut surface of the stump, when I was not sure of its aseptic condition. I prefer erring on the safe side to taking chances. Following this principle, I have, in spite of a number of prominent gynecologists, not discarded drainage of the abdominal cavity altogether, although I acknowledge its

undesirability. But if I find, when ready to close the abdominal cavity, that the field of operation is not dry, that there is still some oozing, which I can not stop completely, where adhesions had been broken, or that material suspicious in regard to infectiousness has come in contact with the wound, I introduce a Mikulicz tampon, which shall cover the area in question and be trained out either through Douglas' pouch into the vagina or through the lower angle of the abdominal incision. Or I may use even two tampons, training one into the vagina, the other one through the abdominal incision. If I drain, I try to drain thoroughly. I believe that more harm than good is done if bloody serous fluid is allowed to accumulate behind the tampon. The openings through which the tampons are led out must be large enough to permit free capillary drainage. Since I have followed this principle, I have had recoveries in cases which I believe I could not have saved had I trusted the peritoneum to fight its own battle. As stated previously, I have drained 8 times in the 61 cases treated by supravaginal amputation, 8 times in the 31 cases in which I used panhysterectomy, and 2 times in the 9 cases of enucleation and myomectomy. The 18 cases were all complicated, and comprised some of the most serious complications I had to deal with. Only 2 of these 18 patients died, but the deaths were certainly in no way connected with the drainage, while, on the other hand, I have to confess that, in looking over the cases which ended fatally without drainage, I can not help but think that, at least in one case, I might have saved the patient's life had I not, influenced by publications denying the value of abdominal drainage, closed the abdomen without drainage, after panhysterectomy for myoma, complicated by an ovarian

and tubal abscess. The pyosalpinx broke during the detachment of the adhesions, but there had not been any peritonitic attack recently, and I was under the impression that all the pus had been promptly caught on gauzes. (Operation March 10, 1897.) The patient died 36 hours after the operation from acute sepsis.

Another question may be mentioned here about which opinions are divided. It is whether it is important for the future health of the patient that one or both ovaries shall be left behind when the uterus or its body are removed, or whether it is just as well or better to remove the ovaries also. It would take me too far to discuss here the doctrine of the so-called internal secretion, and to set forth all the pros and cons which are pointed out by the different authorities. I will simply explain my own standpoint in this matter. In the majority of cases I operated on, whether by supravaginal amputation or panhysterectomy, I have removed both ovaries. In the last few years I have more frequently left one or both ovaries behind, whenever it did not complicate the technic too much and the organs seemed to be healthy. I have not found that the nervous symptoms following the operation after the removal of the ovaries were much greater than in the cases where they had been left behind, the nervous disposition of the patients being apparently the most important factor in this question. On the other hand, I have seen several times, when seemingly healthy ovaries had been left, that there happened later acute and painful swelling of the organs, without there having been any fever or other disturbance during convalescence to indicate a pelvic inflammation, and I remember the reproachful question of a patient, "Why did you not remove the ovaries also?"

They are of no use to me." I believe that either the necessary ligations may produce a venous stasis and changes of the superficial epithelium of the ovaries, thus creating the conditions for adhesions with their surroundings, or that the manipulations during the operation may give a predisposition to the formation of adhesions between ovaries and bowel and to secondary inflammatory changes in the ovaries. I have the impression that, *ceteris paribus*, the left ovary, on account of its neighborhood to the rectum, is especially apt to give trouble afterwards. I have seen also a few times troublesome periodical swelling of ovaries left behind, apparently due to menstrual congestion. The seriousness of the consequences of removal of the ovaries, when the uterus had also to be removed, has been much exaggerated, in my opinion. If Abel's statement, that the ovaries left behind after hysterectomy always atrophy within three years, is correct, why should we take pains to leave them, if their presence is so apt to upset the otherwise favorable result of the operation? I now proceed in the following way in supravaginal amputation: If the patient is not old, the ovaries evidently healthy, and the location of the tumor such that the ovaries, or at least one ovary, can be left, without ligations being necessary, which are likely to interfere with the proper circulation in the organs, I leave them, or at least one, preferably the right one; otherwise I remove them.

Some items in the history of the four cases which died out of the 61 cases treated by supravaginal amputation of the uterus are interesting.

Case 1. Jan. 16, 1894, patient 52 years old. Supravaginal amputation of uterus for fibromyoma in the posterior wall, creating pressure symptoms; stump treated intraperitoneally. Patient's con-

dition excellent up to the sixth day, when, after a sudden motion, the pulse became irregular, with severe pain in cardiac region, and death followed quickly. Post-mortem examination showed embolus in right pulmonary artery; no sign of inflammation in abdominal cavity. Extraneous circumstances forbade search for origin of clot.

Case 2. May 24, 1898, patient 26 years old, typical supravaginal amputation of uterus, with intraperitoneal treatment of stump, on account of multiple fibromyomata, one being developed intra-ligamentously the size of a child's head; the tumors reached to just below the umbilicus. The patient died on the 28th of May. Probable cause of death acute yellow atrophy of the liver. The notes on her case read: "May 24 returned from surgery, temperature 99°, pulse 110; vomited large amount of greenish-brown fluid. May 25, temperature 100.1°, pulse 140; pulse became weaker later on in the day, but improved when stimulants were given. Complaints of pain, especially in right arm; scleræ somewhat icteric. May 26, patient passed gas from rectum, yellow discoloration of scleræ and skin more pronounced; 3:30 P. M., pulse 140, temperature 101.7°; 6:10 P. M., pulse 144, temperature 102.1°; heart stimulants used freely; complains of feeling of fulness in abdomen; abdomen not distended. May 27, icterus not so marked, belching of large quantities of gas, bowels moved spontaneously, stools dark green in color; patient very restless and mind wandering. Pulse 150, temperature 100.4°; bile and sugar present in the urine. From this time on feces and urine were passed involuntarily, while pulse and temperature rose. May 28, patient died at 10 A. M.; post-mortem examination not permitted."

Case 3. March 18, 1902, patient only

22 years old, very large intramural fibromyomata developed from the anterior wall of the uterus, pushing the bladder up. Typical supravaginal amputation of uterus, with removal of both adnexa on account of cyst of right ovary the size of an apple, and cystic degeneration of left ovary. The removed fibroma weighed $13\frac{1}{2}$ pounds. Stump treated intraperitoneally. No shock from operation. Pulse and temperature slightly elevated the following day; restlessness. The second day after the operation icterus, albumin, and granular casts in urine; icterus more pronounced, followed by wandering of mind, stupor, temperature 101° to 102.7° , pulse 96 to 126, bleeding from gum; no peritonitic symptoms. In spite of hypodermoclysis, rectal injections with physiological salt solution, stimulants, strychnia, etc., death four days after the operation. Post-mortem examination showed no peritonitic signs; field of operation in ideal condition. Liver small (19 cm. by 19 cm. by 9 cm., weight 1,200 grams), of lemon color, showing on incision a number of hemorrhagic foci; liver cells degenerated; acute parenchymatous nephritis, spleen 10 cm. by $5\frac{1}{2}$ cm. by 4 cm., pulp firm, brownish red, heart muscle thin, brown. Cause of death, acute yellow atrophy of liver (septic infection?).

Case 4. March 30, 1900, patient 44 years old, had lost much in weight, was cachectic, and had been confined to bed since November, 1898; her temperature was elevated, reaching frequently 104° . No menstruation since November, 1898. As the patient was losing strength rapidly, and the pain in the abdomen was frequently unbearable, operation was decided upon. The uterus could not be clearly outlined on account of masses of exudation in the surroundings; it was studded with fibroids. On its left side

could be felt a painful, immovable, and hard tumor, the upper pole of which reached to $2\frac{1}{2}$ cm. below the umbilicus; its lateral margin approached the left os ilium 3 cm. medianly from the anterior superior spine, and its lower pole was felt to the left and on a level with the cervix. Behind the uterus was a small elastic resistance, which was not definable from the uterus. An attempt was made to reach the abscess below through the posterior cul-de-sac, but only adherent bowels were encountered, and the uterus did not follow traction. After an abdominal incision, the pelvic organs were found densely matted together, the bowels and omentum covering the pelvic entrance completely. The adhesions were especially dense on the left side. The fundus uteri was freed, and the right adnexa were separated from the surroundings, without the possibility of determining their relations to each other. During these manipulations some fetid pus escaped and was caught on gauzes. The abdominal incision was now enlarged to 3 cm. above the umbilicus, and the uterus, which had been found enlarged and studded with fibroids, was freed. When some adhesions on the left side were separated, a large amount of fetid pus and necrotic masses escaped; some of these necrosed masses were removed. The right adnexa were then clamped and cut from the cornu uteri; the largest fibroid was enucleated to gain room; the bladder was pared off the uterus; the right arteria uterina was ligated; the uterus was amputated at the internal os and the stump closed with catgut sutures. The left arteria uterina was next ligated, and the left adnexa, with the necrotic masses, peeled out from below after ligation of the infundibulopelvic ligament. Bleeding was pretty well controlled and the diseased tissue

removed, except on the right side, where some dense adhesions with the colon remained. During the breaking of these adhesions the gut tore, its wall being extremely thinned; the watery feces which escaped were caught on gauzes. The opening in the bowel was closed with catgut sutures and the adnexa were removed, after ligation of the infundibulopelvic and broad ligaments. The intestinal sutures were left long, and iodoform gauze was packed in the neighborhood of the suture line. The pelvic cavity was tamponed with iodoform gauze, and some gauze was trained through the opening into the vagina in the posterior cul-de-sac. The upper and lower parts of the abdominal incision were closed by interrupted silkworm gut sutures, leaving a considerable space for the tampon to protrude for drainage. An abscess of the abdominal wall in the left inguinal region was incised and drained also. Iodoform gauze drainage above and below. Death from sepsis the following day. Specimen showed a uterus studded with small and medium-sized fibroids; the right tube was tortuous and dilated; the left tube communicated with an abscess cavity the size of a large plum, the walls of which were covered with friable masses. Microscopical examination showed tuberculosis of left tube and ovary. It is evident that death in this case was not due to the removal of the fibroid tumors or to the drainage used (every operator, I think, would have drained in this case), but to the absorption of septic material from the intraperitoneal abscess. The presence of the fibroids was immaterial in this case. Perhaps I ought not to have mentioned this operation in connection with a paper on operative treatment of fibromyomata of the uterus, but, to avoid the accusation that I had eliminated cases with unfavorable results, I have counted

this case in my statistics. These were the four cases followed by death after supravaginal amputation.

I would like to mention a few others which terminated in recovery and present unusual features, either in regard to the complications and symptoms or in regard to the treatment of the stump.

June 15, 1893, patient 38 years old, fibromyomata the size of a child's head, originating from posterior wall of uterus, wedged in the pelvis, creating pressure symptoms and menorrhagia; complicated by Graves' disease (goiter the size of a small apple, exophthalmus, pulse 130 before operation). After operation for a few days frequency of pulse 176, character good, no fever. Three weeks after operation pulse 90; some months later between 100 and 120; goiter smaller.

Nov. 7, 1895, patient 39 years old, suffered from menorrhagia, metrorrhagia, and severe pelvic pain, aggravated by menses. Tumor the size of a child's head, chiefly intramural, was composed of hard, fibrous tissue. It had developed intraligamentously on the left side. Adnexa normal. After a median abdominal incision the tumor could be only partially lifted out of the pelvic cavity. Peritoneum covering tumor was incised transversely across tumor, after ligating ovarian arteries, and stripped from tumor. A constrictor was then placed around the pedicle and the uterus amputated at the internal os, and, after cauterizing the canal and excising a cone, the walls of the stump were sewn together with silkworm gut sutures and the stump covered with two peritoneal flaps, which were stitched to it with sero-serous sutures. There was considerable oozing from the bed of the tumor in the left broad ligament. The incision in the broad ligament was partially sutured, and the remainder stitched to the lower angle of the abdominal in-

cision, thus placing the wound entirely extraperitoneal. The wound in the broad ligament was tamponed with iodoform gauze, and the balance of the abdominal incision closed as usual.

The specimen obtained by a supravaginal amputation of the uterus on Sept. 10, 1896, was quite interesting. The operation had been performed on account of menorrhagia, and a great deal of pain in the lower abdomen. A submucous myoma the size of a goose egg, developed in the anterior uterine wall, had (after curetting done elsewhere six months previously) grown fast to the posterior uterine wall, thus forming two distinct uterine canals.

April 5, 1897, patient only 26 years old, noticed small swelling in iliac region 9 years ago. Tumor grew until it reached the ribs. Menstruation regular and scant. The specimen contained the large uterus studded with fibroids, weighing $12\frac{1}{2}$ pounds. Supravaginal amputation of the uterus was performed typically; the right uterine artery, being very large, was tied with silk, and, on account of some oozing from the uterine stump, the latter was fastened to the abdominal wall with one buried catgut and two through-and-through silkworm gut sutures.

Nov. 28, 1899, patient 42 years old; besides multiple fibromyomata intramurally developed, there was found in the right broad ligament a nodular fibroid the size of a child's head, which had no connection with the uterus.

Dec. 29, 1899, patient 49 years old, had been ailing for years, had lost a great deal in weight, and was unable to eat and digest properly. Complaints of pain in region of the stomach and lower abdomen, backache, constipation, and frequent micturition. Uterus considerably enlarged, studded with fibroids, creating pressure symptoms in the pel-

vis. On account of the approaching menopause, operation was first refused and symptomatic treatment tried; but since the pressure symptoms increased in intensity, and the stomach trouble could not be relieved, laparotomy was finally resorted to. Repeated examinations of stomach contents had shown beforehand presence of lactic acid and absence of HCl. After a typical supravaginal amputation of the uterus, with retro-peritoneal treatment of the stump, complete recovery from both objective and subjective symptoms.

March 2, 1900, I operated on a patient 34 years old, on account of multiple fibromyomata, complicated by two large pyosalpinges and a large ovarian abscess. There were a good many adhesions, but it was possible to remove the uterus with the adnexa by supravaginal amputation at the level of the internal os, without any of the pus sacs breaking. No drainage. Recovery uneventful.

Feb. 14, 1901, I performed a typical supravaginal amputation of the uterus on a patient 49 years old, on account of multiple fibromyomata, complicated by an ovarian abscess the size of an orange, and chronic appendicitis. The temperature had been frequently elevated, sometimes to 104° Fahr. It was possible to shell the pus sac out without breaking it. The vermiform appendix was removed also. On account of free oozing from the broken adhesions, drainage into the vagina was established through an incision into the cul-de-sac posterior. Recovery uneventful.

Amongst the thirty-one cases of panhysterectomy performed on account of fibromyomata, I had five deaths—a large number; but it has to be considered that I performed panhysterectomy frequently in preference to supravaginal

amputation, on account of the serious complications, which made it appear as if the removal of the cervix would give a better guarantee for recovery and future health of the patient. The five fatal cases after panhysterectomy were the following:—

Case 1. May 6, 1893, hysterectomy, on account of menorrhagia and pressure symptoms caused by fibromyoma the size of a cocoanut, developed in the anterior wall of the cervix. Vaginal removal was first tried, but then given up on account of the size of the tumor, and abdominal hysterectomy was performed typically, with introduction of iodoform gauze in the vagina and stitching two peritoneal flaps over the field of operation. The patient, who had stood the anesthetic very poorly, died shortly after the operation, from shock. Post-mortem examination showed large, fatty liver, fatty heart, congestion and edema of lungs.

Case 2. May 24, 1893, patient 53 years old; panhysterectomy for multiple fibromyomata, complicated by multilocular ovarian cystoma the size of an apple. The ligamentum infundibulo-pelvica, round ligaments, and upper part of broad ligaments were ligated, two flaps pared off the uterus, the bladder pared loose, the anterior and posterior vaginal fornix opened, the arteriæ uterinæ ligated, and the uterus, with adnexa, removed. On account of free oozing from a tear in the broad ligament, tamponade with iodoform gauze, Mikulicz tampons, one trained into the vagina and another one led through the lower angle of the abdominal incision. Patient was very obese; the pulse weak after the operation, and did not improve much. Death on third day, from shock. Post-mortem examination negative. Of the 101, these two were the only cases lost from shock, and belonged to

the earlier cases, in which I used abdominal panhysterectomy.

Case 3. The operation performed on March 10, 1897, on account of a fibromyoma adherent in Douglas' pouch, complicated by an ovarian and tubal abscess, I have mentioned when I discussed drainage. Had I drained in this case, I might have prevented the acute sepsis which led to the patient's death 36 hours after the operation.

Case 4. Aug. 26, 1897, patient 37 years old. This case presented most serious complications, profuse bloody discharge from uterus, dysmenorrhea, and menorrhagia, causing fainting and dyspnea. In April, 1897, phlegmasia alba dolens of both legs; patient bed-ridden ever since; temperature ranging from 100.6° Fahr. to 103.4°, pulse varying from 100 to 120. Abdomen distended by a tender, elastic tumor in connection with the cervix, reaching to within two inches of the ensiform process. Specimen showed intramural and submucous myoma the size of a man's head, being spongy inside and filled with foul-smelling pus. Uterus and vagina washed out previously to operation with a one per cent lysol solution; uterus packed with iodoform gauze, which was cut short at the external os. After the tumor had been lifted out of the abdominal cavity, the upper part of the abdominal incision was closed, and the tumor, with the uterus, removed typically, after two peritoneal flaps had been pared off its anterior and posterior wall. After the field of operation had been cleaned, the two flaps of peritoneum were stitched into the lower angle of the abdominal wound, in this way keeping the field of operation extraperitoneal, and forming a diaphragm which closed off the abdomen. The opening was packed with gauze, some of which was passed into the vagina from above.

Abdominal incision, except where the flaps had been stitched into the abdominal wound, closed at the upper half by one row of silkworm gut sutures and at the lower half by two rows of the same material. During the operation very little blood was lost; blood looked very watery. The temperature after the operation normal, pulse good, no more pain or vomiting. Patient died on the third day, under the symptoms of edema pulmonum. The autopsy showed 500 c. c. of clear, yellow fluid in each pleural sac, the same amount of fluid with fibrinous flakes in the pericardial sac. Edema pulmonum. Left side of heart firmly contracted, right side relaxed, organized clots in both sides, heart muscle gray in color, valves normal. Abdomen not distended; intestines injected in one small area at the bottom of the pelvis and surrounded by adhesions; 30 c. c. of turbid, yellow fluid free in Douglas' pouch; no communication between sinus either above or below. Nutmeg liver, spleen enlarged, interstitial and parenchymatous nephritis on either side.

Case 5. My last fatal case of pan-hysterectomy for fibroids I operated Jan. 13, 1898. The patient was 34 years old; during an attack of peritonitis a few years previous, a fibroid of the uterus the size of an orange had been discovered; the tumor had grown rapidly since, and now filled the abdominal cavity, causing constant discomfort, and from time to time severe attacks of pain and menorrhagia. Multiple fibroids of the uterus, intraligamentously developed on both sides, cyst of left ovary, and hydrosalpinx of left tube. Median incision from 10 cm. above the umbilicus to 2 cm. above the symphysis. Abdominal walls very fat, muscles well developed. After opening the peritoneum, omentum presented, adherent in its lower portion to the bladder. Pelvic peritoneum was

adherent extensively to the surface of hard, irregular tumors, fibromyomata uteri. The omentum was ligated in its lower portion and the rest of it partially freed by blunt dissection and partially by cutting, after adhesive bands had been doubly ligated. The tumors could then be exposed to view and partially lifted out through the abdominal incision. Since they were developed on both sides of the uterus intraligamentously, they could be fully brought out only after the ligaments had been cut across. On the right side the ovary and tube were not detected. The left Fallopian tube was found, together with the left ovary, imbedded in strong adhesions behind the tumors and in front of the rectum. They were cut off after double ligation at the uterine end. Paring down the peritoneum and ligating vessels, a pedicle was finally formed and cut. The uterine canal, which had been opened when the tumor was removed, was cauterized with the Paquelin. The remaining stump of the uterus, which was about 7 cm. in length and $2\frac{1}{2}$ cm. in diameter at the place of amputation, was then pared out from the surrounding cellular tissues. The vagina was opened at cul-de-sac posterior, the cervix caught with forceps, drawn upwards, and cut loose from the vagina. The left ovary and tube were then freed and removed after the vessels had been ligated. Iodoform gauze was next trained into the vagina from the abdominal cavity, filling the bed of the tumor completely. The anterior flap of peritoneum was finally stitched to the short posterior flap by sero-serous sutures; but to completely cover the pelvic floor with peritoneum, it was necessary to sew part of the anterior flap to the mesentery of the sigmoid flexure. This procedure placed all the ligatures retroperitoneal, with the exception of those used for covering the

pelvic floor with peritoneum and those applied during the freeing of the tumor from the omentum. The abdomen was closed with four rows of silkworm gut and catgut sutures. Vagina mopped out and packed loosely with iodoform gauze. Throughout the operation the right adnexa had not come into view. After being returned from the surgery, a 5-pound sand-bag as well as an ice-bag were placed on the abdomen. During the operation patient showed no sign of shock; pulse immediately after, 78. No vomiting; no pain. January 13, 3 P. M., pulse 108, weak, stimulants given. Six P. M., pulse 112, good in character. January 14, 1:15 A. M., pulse 120, temperature 100.6; 4 A. M., pulse 120, temperature 101; 4 P. M., pulse 140, temperature 101.8; 8 P. M., pulse 140, temperature 101.6. Shortly after 8 o'clock the pulse disappeared, and, in spite of hypodermic injections of normal salt solution, strychnin, camphor, etc., oxygen inhalation, electricity over the heart, and finally blood transfusion, patient died at about 2 A. M., January 15. Post-mortem examination not performed. This death will have to be registered under deaths from sepsis. In trying to explain this septic infection, which occurred in spite of the greatest precautions, I came to the conclusion that just these precautions might have been responsible. It was one of my first operations, where the operator, assistants, and nurses wore cotton gloves, the danger of which was unknown to us then. I made use of these gloves only for a few months in my operations. Since the middle of 1898, assistants, nurses, and myself wear rubber gloves for all operations.

The following hysterectomies, which were all followed by recovery, present especially interesting features:—

April 27, 1894, patient 51 years old;

large submucous and intramural myomata of the uterus, the whole mass extending to the lower ribs; fifty-two of Apostoli's treatments had been given by another physician; high fever, excessive menorrhagia, pain across the lower abdomen and back. Portions of a sloughing tumor the size of a fist extended into the vagina; other tumors were edematous; in one was an abscess. The sloughing masses were removed by vagina, after which abdominal panhysterectomy was performed. Communication of abdominal cavity with vagina closed by sewing the peritoneum, pared off the uterus, over the field of operation by sero-serous sutures. Except for cystitis, recovery uneventful.

Aug. 2, 1897, patient 35 years old; an inguinal hernia, which was in evidence, besides multiple fibroids of the uterus, was operated on, after typical panhysterectomy, by resecting the hernial sac and closing the inguinal canal both from the peritoneal side and outside, after the usual inguinal incision had been made.

In a panhysterectomy performed Dec. 1, 1898, on a patient 35 years old, a small fibroid, originating from the round ligament, was found, besides multiple uterine fibroids.

A specimen gained by abdominal panhysterectomy performed Nov. 7, 1901, on a patient 40 years old, showed a pedunculated fibroid the size of a medium-sized apple, which was twisted twice around its pedicle and had a few months previous produced a severe peritonitic attack. The serous and muscular coats of the bowel were injured during the paring off, and were repaired. The main mass of the tumor, the size of a football, had developed intraligamentously, and from the left side of the collum uteri. The body of the uterus was found on the right side and in front

of the large mass, and raised out of the pelvis. It was only possible to dislodge the tumors from the pelvis after the infundibulo-pelvic and round ligaments and the arteriæ uterinæ at the side of the uterus had been ligated and the uterine body amputated. The lower half of the removed tumor presented a perfect cast of the pelvic cavity. On account of profuse oozing, the cervix was finally removed, a broad communication established with the vagina, and the pelvis tightly packed with gauze, which was trained into the vagina. Recovery uneventful, except for shock symptoms during the first few days after the operation.

Panhysterectomy, in which fibroid tumors were complicated with general subacute peritonitis, pelvic abscess, large abscess cavities in the tumors, and decomposed fetal sac in the uterus, was commenced as an exploratory incision. The history was as follows: Patient 39 years old, no children. Abdominal tumors had been noticed for three years. A few months ago conception took place. A physician advised to have an abortion produced, "on account of fibroid tumors." This was done by her about two months previous to her coming under my care. Since this time fever, vomiting, pressure symptoms in the pelvis, pain in the abdomen; patient suffered from bad-smelling, yellowish discharge from the uterus, and the tumors seemed to grow rapidly. When operated, Sept. 3, 1901, patient weighed only 73 pounds. The cervix went over into an irregularly-shaped, hard, and immovable mass, the upper pole of which reached the umbilicus. On the left side of the cervix was felt a softer resistance, inseparable from the hard one. When the abdomen was opened, the bowels were found adherent to the parietal peritoneum every-

where, as was also the bladder, except for a space directly over the bladder, where for 4 cm. no adhesions were encountered. During the attempt to pare the bladder free, a considerable amount of foul-smelling pus escaped from the right side. Two small fibromyomata, which presented next, were enucleated to gain space; the bowels were pared loose from the fundus uteri, making it possible to introduce a hand behind the uterus and break up the adhesions; this produced a new flow of pus and debris. The tumor masses could then be lifted out of the pelvic cavity by a corkscrew. The left adnexa were healthy, so left tube, round ligament, and broad ligament were ligated close to the uterus; the left arteria uterina was ligated close to the internal os; the uterus was amputated after the bladder had been pared loose, during which procedure some pus escaped from the uterine cavity; the right uterine artery having been ligated, the right adnexa were pared free from the pelvic floor, and the tumor mass removed, after the right broad, round, and infundibulo-pelvic ligaments had been ligated. The remaining wall of the pelvic abscess was trimmed off and the cervix finally excised. Drainage by a large Mikulicz iodoform gauze tampon, which was placed in the pelvis and trained into the vagina, and two more tampons, filling the balance of the pelvis and forming a diaphragm toward the abdominal cavity; these were trained through the lower angle of the abdominal incision. The remainder of the abdominal incision was closed in four layers, silkworm gut being used for the skin; for the rest, catgut. The specimen showed the uterus studded with tumors the size of a large child's head; except the two first enucleated fibroids, and one in which the corkscrew had been fastened, the tumors

all contained cavities filled with fetid pus, containing staphylococci and streptococci. The pus sacs extended to the mucosa of the uterus. The latter's cavity contained a bad-smelling, decomposed fetal sac the size of a hen's egg. Patient had an uninterrupted recovery, and when seen $4\frac{1}{2}$ months after her operation, had gained in weight 40 pounds, and felt perfectly well.

Sept. 12, 1901, I operated on a patient 33 years old, who was almost in as bad a condition as the one whose case I have just described. Her temperature ranged from 99 to 102; the uterus was studded with fibroids, and formed one immovable mass with the adnexa, the tumors filling the pelvis and reaching to the umbilicus. There was a large tubo-ovarian abscess originating from the right adnexa and a pyosalpinx of the left side. One pus sac broke during the operation; one was evacuated. On account of the great difficulty in paring them free, Kelly's plan to bisect the uterus and shell the masses out from the uterine side toward the pelvic wall was followed. Finally the cervix was excised and drainage established, as in the former case, and the abdomen closed in four layers, as set forth. Except for an abscess in the abdominal wall necessitating the removal of the silkworm gut sutures on the fourth day after the operation, recovery was uneventful. October 30 wounds cicatrized completely; no pelvic exudation.

The specimen obtained in panhysterectomy, performed Oct. 29, 1901, on a patient 40 years old, who had an acute peritonitic attack two months previous, showed, besides a uterus studded with small multiple fibromyomata, two pyosalpinges, one of which broke during the breaking up of adhesions. The left ovary was the size of an English walnut, and contained a calcareous mass.

Drainage was established by vagina only. Recovery uneventful.

Cases like some of these described to you have impressed upon me the efficiency of free abdominal drainage.

I do not think that there is any contrast between supravaginal amputation of the uterus and its complete extirpation. Both operations I commence in the same way, and make up my mind generally only during the operation what method to choose. The choice is made according to the size of the cervix, whether it contains fibroids or not, whether the vaginal portion is healthy or not, whether drainage seems advisable or not, whether the condition of the patient is good or not during the operation, etc. I can not give the palm either to the one or to the other method unconditionally. I do not agree with the operators who claim that supravaginal amputation was frequently followed by exudations in the surroundings of the stump and panhysterectomy was not. I have not seen any more stump exudations since using catgut altogether in the abdominal cavity and taking care never to close the abdominal wound without gauze drainage, if not altogether sure of the dryness of the field of operation.

Regarding the technic, I have followed various methods, according to the circumstances presented. After the preliminary steps, which were the same as for supravaginal amputation, had been taken, I sometimes opened first the anterior vaginal vault in Trendelenburg's position, and without any assistance from the vagina; sometimes I lowered the table, introduced two fingers into the vagina, and pushed the blades of a pair of scissors into the posterior cul-de-sac first. When I still used silk in the abdominal cavity, I frequently left the sutures long, turned them into the vagina, and sewed two large flaps of peri-

toneum, pared previously off the uterus, over the field of operation with running catgut. The silk sutures came away toward the end of the second week. Since I have used catgut for ligations, I always cut the ligatures short; but until 1901 I was in the habit of stitching the flaps of peritoneum together over an iodoform gauze tampon, which previously had been introduced into the vagina. I closed in this way the abdominal cavity completely. I think this is unnecessary, and I have lately, in the last six cases, given up this practice and refrained from closing the peritoneum over the tampon trained into the vagina, without having had to regret it. I have to admit that five of these cases had been complicated in such a way that I considered drainage necessary, which fact prompted me to change my former way of proceeding.

It is only necessary for me to say a few words regarding my general technic for and in abdominal section. Preparation of the patient for two days: First day, one and one-half tablespoonfuls of castor-oil, liquid diet, and bath; second day, one and one-half tablespoonfuls of castor-oil in the morning, flour gruel diet. Bismuth subnitrate 1.0 three times in the day. At night abdomen and pubes are shaven by the nurse; a bath is then given and a 1:5000 corrosive sublimate compress placed on the abdomen. By high soapsuds enema, given early the following morning, rectum is washed out, until the water comes away clear; then another bath is given and a fresh compress put on the abdomen. One hour before the operation disinfection of vulva and vagina by an assistant surgeon; and if we are not sure about the aseptic condition of the uterine canal, the uterus is washed out also with one-half per cent lysol solution. The vagina is then loosely packed with

iodoform gauze. Since 1897 I have used chromicized catgut altogether in the abdominal cavity. Before 1897 I used frequently silk for the ligation of the broad ligaments or large vessels, and have also used silkworm gut a few times for the uterine stump. I am satisfied with the chromicized catgut I am now using, which is prepared by my assistants, and I never had any wound infection for which I could blame the catgut, and have not experienced any secondary hemorrhage. When I was in the habit of using silk for intra-abdominal ligations, I saw frequently stitches eliminated through the cervical stump after a long period, when supravaginal amputation of the uterus had been performed. I also experienced once in a while pelvic exudations following operations on the pelvic organs. I have not seen this any more since using catgut exclusively. Concerning closing of the abdominal incision, my technic during the last four to five years has been: Running catgut for peritoneum, and, where well-developed, deep fascia, the same thread generally is used to unite the muscles in a second layer; another row of running catgut unites the cut superficial fascia; but until a year or so ago I used to prefer interrupted silkworm gut for fleshy patients and fine silk sutures for thin patients for this structure, since people with a thin layer of subcutaneous fat used to feel the stiff ends of the silkworm gut sutures through the skin. If there is a large layer of subcutaneous fat, another row of running catgut brings together the cut surfaces of the fat, and the skin is finally sutured by interrupted silkworm gut. I place the stitches from the outside to the inside, and have never seen any stitch-hole abscesses; perhaps the smooth and non-absorbent silkworm gut does not carry any germs along when the

stitches are being placed. The iodoform gauze used for drainage is really more aseptic than antiseptic, and is incapable of producing iodoform intoxication. I take five per cent iodoform gauze, which, after having been cut in the way I want it, is sterilized by steam. This practically carries away most of the iodoform. I believe that in most cases aseptic gauze would give the same results.

I regret that my paper has become longer than originally anticipated, and yet I am fully aware of the fact that I have not by any means exhausted the subject. I have tried to limit myself to the practical side of it, and to economize space in every possible way.

903 Van Ness Ave.

DISEASES OF THE UTERUS AND APPENDAGES TREATED PER VAGINAM WITH EXPOSITIONS ON DIAGNOSIS AND TREATMENT.

By A. MILES TAYLOR, M. D., San Francisco.

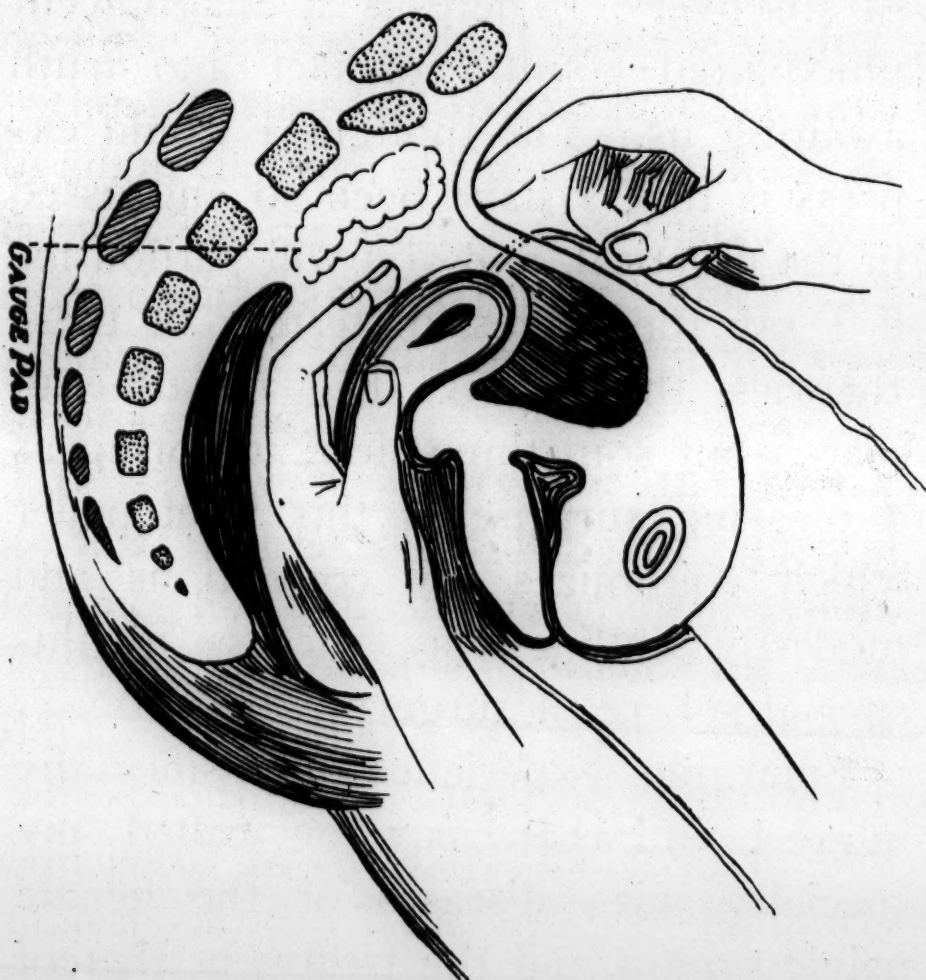
Read before the Medical Society of the State of California, April 15, 16, 17, San Francisco.

Privileges are inseparably connected with obligations. Membership in a medical association affords opportunities for enjoyable and helpful fellowships and the interchange of opinions appertaining to the profession with which we are identified, and at the same time confronts us with duties which cannot be conscientiously ignored. Among these obligations is that of giving our views, formulating our opinions, and outlining our experiences along given lines, when called upon to do so by the "powers that be," which, the good Book says, are "ordained of God." It is in response to such an assignment of duty that I appear before you to-day. This is the third time within a decade that I have had the honor of addressing you upon a theme which has profoundly interested me through the passing years.

I am conscious that I have little if any thing new to offer for your consideration. I do not imply by this that medical or surgical science in this particular department is at a standstill, having reached barriers like those touching the restless sea on our rock-bound coasts, beyond which it can not pass, or that I have so mastered facts as to know it all. Whilst there have been splendid advances, and we have come into light in connection with intricate, baffling mysteries involving questions of life and death, we are as yet upon the threshold of discovery. There is a magnificent unexplored country of fact and truth awaiting us. The thought I would express is this, I have been so engrossed in the practical, and you will pardon me if I say the successful testing of these theories, that I have had no time to search out something new, to spring as a pleasing surprise in this brief paper which epitomizes my convictions and modestly outlines my success in this special sphere of surgery.

Enlarging experience intensifies my interest in what may be called my specialty, viz., diseases of the female pelvic organs and the treatment thereof through the vagina. It is true that the great majority of operators do not favor this method, which, to my mind, in selective cases, is far superior to the abdominal route, both from the patient's and the surgeon's point of view. For the patient we at least save her from a disfigured abdomen; no unsightly scar is ever present to constantly remind her that she has submitted to the knife. This may not be much to a normal woman, but I assure you, gentlemen, it may, and often does, become an important factor in one nervously inclined. We have removed successfully a diseased organ only to leave a causative agent of

morbid impressions. We must also consider the possibility, if not probability, of hernia. I do not think that there is any one here who has operated often by the abdominal method who has as yet to see his first case of hernia. We are not concerned, therefore, about hernia when operating per vaginam. Neither do we trouble ourselves as to the method of wound closure we shall employ, and whether or not we will be subjected to the annoyance of a mural abscess. If the above reasons should influence you to think favorably of op-



erations through the vagina, I am confident that careful investigation will satisfy you that with a properly-constructed table and a few suitable instruments, you can command your field by this method just as well as through the abdomen, and without subjecting your patient to such danger of shock, you lessen greatly the danger of sepsis. If this fails to convert you, think for a moment how much more conservative surgery would become with the more general adoption of this method. Think of the great number of ovaries and tubes that could be saved that are daily being sacrificed by the employment of the ab-

dominal method. In all operations by this route, the position greatly facilitates the work. The patient should be placed upon a table which has shoulder braces attached, and when placed in the Trendelenberg position (which is a necessity), these will keep the patient from slipping away from, and out of reach of, the operator. The following operations, I think, will prove to you beyond a doubt that the vaginal is the best method to be followed.

The operation for bringing together the ends of the broad ligaments after a hysterectomy as accomplished by Dudley, of Chicago, in abdominal section, has been followed in vaginal sections for some years, and when the ligaments have been spared by disease, so that a sufficient amount of them can be left, it is found an easy and rapid method, and generally gives good results.

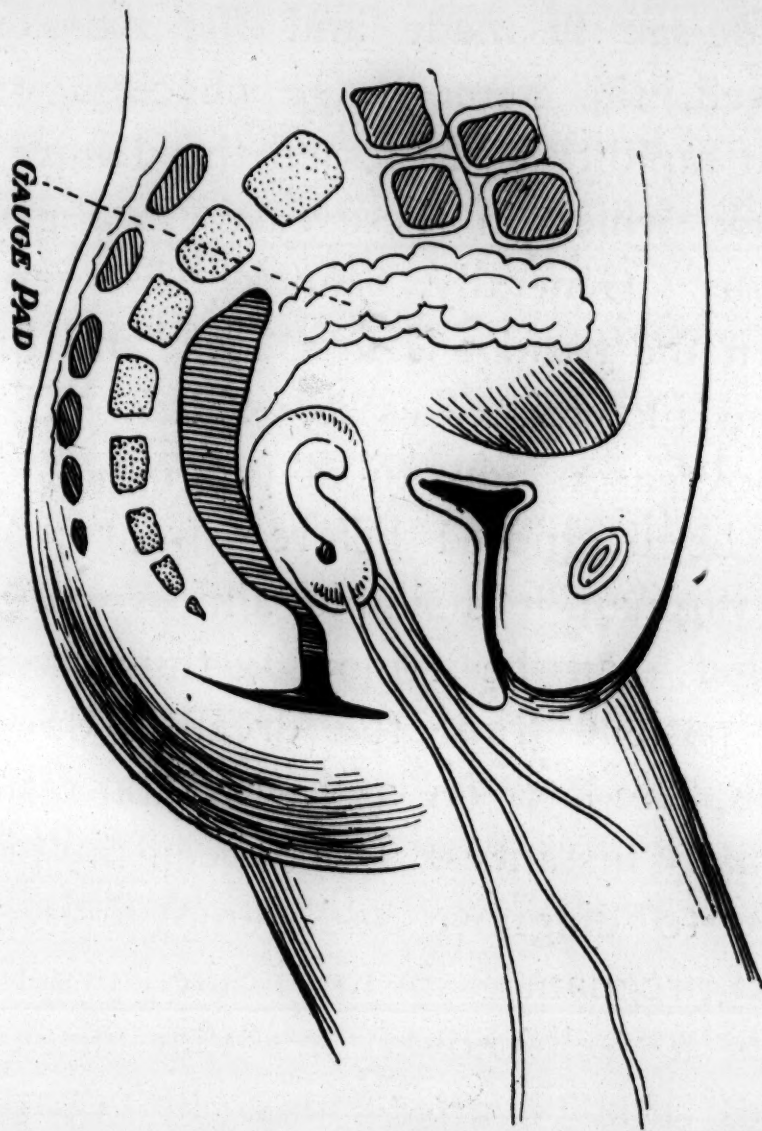
The operation for shortening the round ligaments per vaginam is performed by folding them upon themselves and suturing them to the uterus.

Ventral suspension through the vagina is performed by entering the cul-de-sac, and cutting the vaginal tissue at the crescentic fold with scissors, grasp the lower flap with a pair of forceps, push the finger through the peritoneum, keeping close to the uterus, so as not to injure the rectum; with a pair of clamps introduced, the opening can be enlarged bilaterally to suit the occasion. Introduce the retractors, and with large pads of gauze behind (with silk or tape attached), thereby making a diaphragm between the organs to be operated and the bowels, break up any adhesions that may be found, grasp the fundus of the uterus with a tenaculum, pull it down well into the vagina, with a scalpel scarify it, pass the sutures through, leaving both ends long. Now replace

the uterus, and with one of the ends of the suture, thread the Taylor Vaginal Ventral Suspension Needle, push two fingers through the opening, and press the uterus forward, introduce the needle between the fingers; when the point comes in contact with the parietal wall, which is pressed down by an assistant, scarify the peritoneum with the point of the needle. When this has been done sufficiently, thrust the point of the needle through the abdomen, remove the suture, withdraw the needle, thread again with the remaining end of the suture, and carry through in the same manner as before. The remaining sutures are to be introduced as the first. Holding the uterus well against the abdominal wall, place a shield of lead or ivory perforated over the abdomen, pass the ends of the sutures through, and tie. This shield will prevent the cutting of the flesh from the pressure made by the weight of the uterus upon the sutures. The materials used for suturing are heavy silkworm gut or kangaroo tendon. If the latter be used, it need not be removed.

Vaginal Fixation.—While many cases can be benefited by this procedure, it, like the ventral suspension, does not in all cases give the relief sought. The patients best benefited by vaginal fixation are those who suffer from an anemic condition, retroflexed uterus, chronic endometritis, or cervitis with painful menstruation. The operation is performed by first dilating the cervical canal, curretting when indicated. If there are no adhesions present, make the incision anterior to the cervix, this being pushed back; with a small retractor hold the bladder up and out of the way, pull the fundus forward with vulsella. Now place the sutures through the uterus, remove the vulsella,

and, by holding the ends of the sutures, scarify the fundus where it is to come in contact with the vaginal walls, then pass a ligature carrier through either side of the vaginal tissue, and bring out the sutures, and tie. The ligation will hold the uterus in position until union has taken place. If any adhesions are present, open through the posterior wall of the vagina, and break them up before making the fixation. We sometimes



find that this operation over-corrects the position, but with the dilatation of the cervix and a little time, this trouble seems to improve, and in the majority of cases corrects itself. As regards pregnancy, we have the same objection as in ventral suspension. However, there seems to be little disturbance after the third or fourth month, during which time there is a tendency in some cases to abort, especially in fleshy women. It has been my pleasure to deliver several cases at full term after vaginal fixation, and in no one of these was there any trouble arising from the fact of the operation having been performed. This procedure has the advantage over the

ventral in not leaving an opening for the bowel to become obstructed by getting in behind the ligament made by the suspension. Most of us have had experiences with the bowel in ventral suspension that we do not wish to be called upon to face again. Tubal pregnancy, ruptured or unruptured, can be operated per vaginam with greater satisfaction than otherwise; where the tube has ruptured, an opening through the cul-de-sac is made and the mass removed, the hemorrhage checked with such rapidity as to lessen the danger of shock, which in these cases is a great factor. Generally, shock is present when the patient is first seen, and time saved in such cases is golden. There is no reason why tubal pregnancy can not be diagnosed before rupture; and per vaginam it is simple, almost without danger, can be removed, thus saving the patient from the dreaded danger of rupture later on, and with fatal results in many instances. It has been my privilege to diagnose and remove several tubal pregnancies in my limited practice. It is a well-known fact that diseased tubes and ovaries may be opened, drained, treated, or removed through the vagina with almost as little danger to the patient as the same amount of disease conditions in any other part of the body. The opening in the vagina gives us free drainage, and, if care be exercised in preparing the patient during the operation and the placing of gauze pads at the time of operation, we will have little fear of infection of the abdominal organs; for "mother nature" will, within twenty-four hours, shut off all those parts not enclosed in the dressings, by adhesion. Then it is necessary that we make the dressings extend around and above the tube, ovary, or organ we have operated upon.

The greatest care should be exercised at the next dressing to preserve the adhesions so gracefully formed for our convenience and the patient's safety. By this means of working, we are enabled to save many pelvic organs that under other operations and circumstances could not be done. Fibroids of the uterus, especially situated in the posterior wall and fundus, can be removed easily through the cul-de-sac, using the same technic as for the removal of an ovary or tube, sewing up the incision in the wall with catgut, replacing the organ, and with a running suture close the opening in the vagina.

Adhesions.—Often it becomes necessary to break up adhesions in the pelvis without the removal of any of the adnexa. When this has been done, it has been found that a piece of gutta-percha tissue placed between the organs separated will serve to keep them from reuniting. This should be replaced by a fresh piece in twenty-four hours, and after a few days the danger of reunion will have passed. It is possible by this route to perform this operation, the shock and minor damage to these organs making it feasible, which can not be said of any other method. Suppurative peritonitis can best be treated by opening the cul-de-sac and washing out the abdominal cavity with a saline solution. This should be done frequently, every four hours or oftener if the case demands it. Tubercular peritonitis, as we know, is benefited by an abdominal incision and flushing out of the cavity. How much easier is the vaginal opening performed, and, besides, this can be kept open and washed daily, giving the patient the benefit of recurrent washing that can not be given through the abdomen very well. Ascites in women is now treated by opening the posterior

wall of the vagina, instead of tapping through the parietal walls, giving the assurance of draining the abdominal cavity thoroughly, which is hard to do through the abdomen in any position the patient may be placed.

Shock is one of the greatest factors in operations, and as we know that the longer the anesthesia, the more the viscera is uncovered, the greater the handling of the intestines, the more the exposure of the delicate sympathetic nerves in these parts, and, as experiments show that when the abdomen is opened the abdominal veins dilate, and in consequence a large amount of blood flows into them, thus leaving the heart and the blood-vessels conveying blood to the important nerve centers at the base of the brain with very little fluid to work upon,—then shock ensues. Hence, when this can be avoided (which can be done by operating per vaginam), is it not far better for us to operate by this method, when we are able to treat diseases which I have mentioned with less shock and danger, and with a certainty of being able to save many organs and relieve much suffering, without subjecting our patients to the grave method of abdominal section, which does not hold out these advantages? I can not conceive why more surgeons and gynecologists do not adopt this method rather than let their patients continue to suffer with what would not seem to justify an abdominal section. In view of the fact that a vast majority of women who apply to us for relief, suffer from some pelvic disease, and that medication in most of these cases avails but little, the dread of abdominal section affrights them, and carries with us the dread of

shock, probable hernia, and retroid growth. While the operation for the relief of such conditions can be performed with but little danger, and I believe that when we have experience, with what ease and minor damage these diseases can be treated per vaginam, more of us will adopt this method of treatment. I am conscious that I have but imperfectly presented this subject, which is of absorbing interest to every surgeon. One can not break down prejudices of long standing with a battering ram. Convictions born of limited experience are hard to overcome. It is natural for us to advocate what we consider the best methods in a given case, even if by so doing we continue in a groove, and a narrow one at that. It takes some grit to espouse the new when it implies the abandonment of the old.

Medical and surgical science is of a progressive character; and whilst there is no sense in everlastingly changing methods of treating well-defined diseases, we ought to be wise enough to learn something from every practitioner with whom we come in contact; for, if the gods have not whispered to him some important secret that we ought to know, he may have gained positive and important information in his practice, which, if imparted to the wisest sons of Esculapius, might very materially enlarge the sphere of their usefulness, and measurably contribute to their success in the scientific treatment of disease. In this conviction I have unfolded my theory and outlined my practice in the treatment of diseases of the pelvis per vaginam.

1106 Post Street.

HOSPITAL REPORTS.

Gynecological Clinic, Cooper Medical College, Geo. B. Somers, M. D., in charge.

Reported by Minora E. Kibbe, M. D.

ROUTINE CLINIC TREATMENT—GENERAL.

The family and past history of patient is taken, the history of menstruation, childbirth, and pelvic inflammation being carefully inquired into, then the history of the present trouble. Special pains are taken to have patient state clearly the principal complaint for which she seeks advice. After loosening all bands about the waist and removing corsets, the woman is placed upon the table in dorsal position by the nurse, a drop sheet arranged upon a rack serving to shield her from the examiner and to cover the clothing. The doctor now inspects the external organs and abdomen. If there is redness about the orifices of the ducts of Bartholini or a suspicious discharge, coverslip smears are made from ducts, cervical canal, and urethra and a half per cent lysol douche is given. A bimanual examination is then made, followed by a speculum examination, and the results of inspection and palpation are recorded, together with diagnosis and treatment to be carried out. Local applications are supplemented by general treatment. Directions are given as to diet, exercise, and bathing. Whenever there are any indications, the blood, urine, and vaginal discharges are examined in the laboratory. Some cases, complaining during treatment of chilliness, distension of abdomen, nervousness, and weakness, have shown the hematocytozoon of malaria on examination of the blood. The exhibition of quinin has confirmed the laboratory diagnosis. The prescriptions most commonly used in the clinic are:—

For nervousness,

R: Sodii bromidi..... $\overline{3}$ j
Aqua, q. s., ad..... $\overline{3}$ vi
M. et Sig.: $\overline{3}$ j every four hours.

R: Pil asafetidæ aa gr. ij
Sig.: One after meals.

R: Ammonii valerianatis.. $\overline{3}$ iv
Sig.: One teaspoonful every four hours.

As tonics,

R: Elixir calisayæ,
Liquor ferri albumati.....aa $\overline{3}$ ij
Sig.: $\overline{3}$ ij before meals.

R: Elixir ferri et quininæ et strychninæ.. $\overline{3}$ vj
Sig.: A dessertspoonful before meals.

R: Extr. tritici repentis $\overline{1}$ $\overline{3}$ ij
Tr. hyoscyami..... $\overline{3}$ p
Sod. bicarb..... $\overline{3}$ p
Aq. menth. pip, q. s., ad..... $\overline{3}$ vj

M. Sig.: Dessertspoonful in half glass of water four times a day.

For anemia and chlorosis,

R: Pil. Blaud.....aa gr. iij
Sig.: One after meals.

For constipation: Diet and habits are corrected. A teaspoonful of bran in milk after meals is sometimes advised. The following is the formula for the clinic constipation pills:

R: Pil hydrarg..... $\overline{3}$ ss
Extr. cascara sagrada..... $\overline{3}$ j
Podophyllin.....gr. vj
Extr. hyoscyami.....gr. x
Extr. aloes.....gr. xv

M. ft. pil no lx.

Sig.: One or two at bedtime.

Elixir of cascara sagrada is also sometimes prescribed in teaspoonful doses once or twice a day.

For irritable bladder and enuresis, excessive alkalinity or acidity is regulated to a neutral or faintly acid urine; later, the following is given:—

R: Quininæ sulphatis.....gr. xx
Ferri phosphatis.....gr. xxx
Acidi arseniosi.....gr. j
Extr. aloes aq.....gr. iv
Extr. ignatiæ.....gr. vj

Ft. capsule No. xx.

Sig.: One after meals.

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THE BOARD OF HEALTH AND ITS INJUNCTION PROCEEDINGS.

The injunction proceedings instituted by the Board of Health to prevent their removal by the mayor were sustained by Judge Sloss in a decision rendered May 29. The question at issue has reached such prominence and is of so great importance to the health boards of the country that we deem it advisable to quote it in full. Much that is commendable could be said in favor of a judge who would render so fair a decision in the face of so vehement a public sentiment and the probable bitter denunciations of a false and malicious press. The legality of the case is plainly presented, all fairness is shown, and the spirit of the opinion is quite in contrast to that which characterized a charge rendered in a federal court two years ago. It reads thus:—

OPINION.

On the twenty-fifth day of March, 1902, and for some time prior thereto, the plaintiffs and the defendant Ward were members of the Board of Health of the city and county of San Francisco. On the day named the defendant Schmitz, as mayor of said city and county, caused to be served upon the plaintiffs a paper stating that he had, pursuant to the provisions of Article XVI, section 18, of the Charter, removed them from office for various causes stated in said paper, and that he had appointed in their place and stead, as members of said Board of Health, the defendants Stinson, Adler, Rottanzi, and Van Meter. On the following day the plaintiffs commenced this action, and obtained an injunction restraining the defendants from interfering with said plaintiffs in the performance of their duties as members of the Board of Health. The defendants have demurred to the complaint, moved to strike out portions thereof, and have moved to dissolve the injunction.

It is alleged that the proceedings to remove the plaintiffs were taken without any previous notice to them, and without their having had an opportunity to be heard, or to defend against any charges made. It appears, further, that the plaintiffs deny the right of the mayor to remove them in the manner which has been adopted, and intend to contest the defendants' title to the office,

based on such removal or attempted removal.

At the outset of the argument it was contended by the one side and conceded by the other that a court has no jurisdiction in a suit for an injunction to try the title to public office. And this is undoubtedly the established law. (High on Injunctions, 3d ed., sec. 1312.)

The title to the office in the case at bar depends upon a determination of the question whether, under the Charter, the mayor has the power of removing appointed officers without giving them an opportunity to be heard in defense of charges first presented against them. The plaintiffs contend that he has not such power; the defendants that he has. But a determination of this question would be deciding the title to the office, which, as is conceded, can not be done in an injunction suit, but only in the form of proceeding known as quo warranto, or its statutory equivalent. It follows that it would be idle for the court, in this proceeding, to express an opinion as to the construction of the charter provision regarding the removal of officers. Such an opinion would have no binding effect, and would not conclude either side in any proceedings which might hereafter be brought to determine who has the better right, or the only right, to the office in question. Whether, under the charter, the mayor has power to remove appointed officers without giving them notice of charges, and a hearing, and whether the plaintiffs or the defendants Stinson, Adler, Rottanzi, and Van Meter are members of the Board of Health, are, therefore, questions which can not be, and are not, decided on this hearing or in this action.

But, although a court of equity has no jurisdiction to try the title to public office, the principle is well established that, where there is a contest between two persons, both claiming to be entitled to the same office, a court of equity will, by injunction, protect the officer in possession as against the interference of an adverse claimant, until the latter has established his title by appropriate proceedings at law, viz., by the prosecution of a writ of quo warranto. (High on Injunctions, 3d ed., sec. 1315; Brady vs. Sweetland, 13 Kan. 41; Brady vs. Theritt, 17 Kan. 468; Guillotte vs. Poincy, 41 La. Ann. 333; Goldman vs. Gillespie, 43 La. Ann. 83; State vs. Superior Court (Wash.), 48 Pac. R. 741; Reemelin vs. Mosby, 47 Ohio St. 570; City of Huntington vs. Cast, 149 Ind. 255; Parsons vs. Durand, 150 Ind. 203; State vs. Alexander, 107 Iowa 177; Rhodes vs. Driver (Ark.), 65 S. W. 106; Sullivan vs. Haacke, 5 Ohio N. P. 26.

In my opinion, this rule is supported, not only by authority, but by considerations of reason and public policy as well. If one, having been appointed or elected to an office, finds, on demanding the office, that his predecessor refuses to yield, claiming to be still entitled, what is the proper course for him to pursue? Is it to seek to enter and dispossess such predecessor surreptitiously, or by force, or is it to proceed to establish his right by the orderly process of law, in an action in which such right can be established promptly and effectively? The question admits of but one answer. The proceedings set forth in sections 803 to 810 of the Code of Civil Procedure (in effect *quo warranto*), furnish an adequate method of determining whether or not the officer refusing to surrender has any right to the office. The claimant out of possession, however good his claim may eventually turn out to be, should, in the interest of peace and order, be compelled to resort to such proceedings. If his right is established, it can at once be enforced, even though an appeal be taken. (Code Civ. Proc., sec 949.)

On the foregoing grounds, it would appear that the plaintiffs are entitled to the injunction restraining the defendants from interfering with them in the performance of the duties of their office, until such defendants shall have established their right by an appropriate proceeding at law. But, while the general rule, hereinbefore laid down, is not disputed by the defendants, they contend that, at the time of the commencement of the action, the actual possession of the office was in them and not in the plaintiffs. The facts are that, on the afternoon of the 26th of March, the mayor, accompanied by the other defendants, entered the rooms in the City Hall occupied by the Board of Health, none of the plaintiffs being at the time present; that the mayor announced to the secretary of the board the removal of the plaintiffs and the appointment of the defendants Stinson, Adler, Rottanzy, and Van Meter; that the last-named defendants, together with the defendant Ward, then held a meeting in said rooms, at which they elected a president, passed a resolution continuing in office the then employees of the board, and thereupon adjourned, intending to meet again on the following day. Before any further action was taken, the injunction now under discussion was served. On these facts, who was in possession of the office? No demand had ever been made on the plaintiffs. They had not surrendered the office; in fact, at their very earliest opportunity they asserted their determination not to surrender, by bringing this suit. An office is a franchise; it consists of the exercise of intangible rights and duties appertaining to its occupant; and possession of the office does not depend on the mere physical possession of the rooms and furniture ordinarily used in the performance of the functions of the office. (Mead vs. Treasurer, 36 Mich.

416; Lawrence vs. Hanley, 84 Mich. 399; Brady vs. Sweetland, 13 Kan. 41; Braidy vs. Theritt, 17 Kan. 468; Sullivan vs. Haacke, 5 Ohio N. P. 26.)

The defendants may have a right to the possession of the office, but that is a different thing from the actual possession.

Actual possession can be obtained from the occupant in one of two ways only—either by the surrender or abandonment of the office by such occupant or by his ouster in the course of legal proceedings. (Oliver vs. Jersey City, 63 N. J. L. 635; Mead vs. Treasurer, 36 Mich. 416; State vs. Draper, 48 Mo. 213; Hallgren vs. Campbell, 82 Mich. 255; Braidy vs. Theritt, 71 Kan. 468; In re Cleveland, 51 N. J. L. 311.)

The right being disputed, the defendants can not themselves decide the disputed right, and execute that decision by installing themselves in office forcibly or by entry in the absence of the officers in possession. Since the plaintiffs refuse to yield possession, the defendants must enforce their right to possession, if they have such right, by legal proceedings.

Of course, an officer, who, without any showing of right, attempts to hold onto an office as against one clearly entitled, would not be granted an injunction to protect his possession as against the entry of the rightful claimant. But here there is a contest, which can not, in view of the authorities, be regarded as without foundation. There is room for debate as to the construction of the charter provisions for removal, and, that being so, the later claimants should be compelled to establish their right by *quo warranto* proceedings. To decide in this proceeding that the charter does, or that it does not, permit removals without notice or hearing, would be to determine who of the contending parties constitute the lawful board of health, the very thing which all parties agree this court has no jurisdiction, in this suit, to do.

The foregoing disposes of the demurrer and the motion to dissolve the injunction. The motion to strike out is directed to the allegations of the complaint regarding want of notice and an opportunity to be heard. While these allegations can not, for the reasons hereinbefore stated, be of any importance in determining whether or not the removal was a valid exercise of power, they show the grounds upon which plaintiffs base their claim, and should remain in the complaint, in order that the same may disclose that a contest is made in good faith upon some basis.

For the foregoing reasons, the demurrer will be overruled, with leave to answer within ten days; the motion to dissolve and the motion to strike out will be denied.

M. C. Sloss, Judge.

The result was received with the greatest satisfaction by the profession.

Our daily newspapers at once in derision and bitterness decried it, and in vicious language reiterated their false and threadbare indictments against the "infamous bubonic" board. They were not satisfied, as was usual, to pour their venom on these men and the judge, but turned their wrath on the Treasury Department and the Marine Hospital Service. They not only assailed Dr. Wyman, but went so far as to endeavor to mislead the public by concealing the conditions under which a certain telegram was sent to the governor of this state, and to make it appear that this message covered the whole time of these investigations and not merely a period of three months. Among these critics the *Examiner* stood first and foremost. Its denunciation of Dr. Wyman is to be especially deprecated, because the editor knows that he and his fellow commissioners used every means to prevent any case of acute disease from falling into the hands of the Marine Hospital officers or the local board of health, and so successful were they in this respect that they boasted of their power, admitting that no case of plague would be discovered until they virtually allowed it.

These accusations are doubly despicable considering the extreme courtesy shown Mr. Williams and his confreres by the Treasury Department and Dr. Wyman, whom they have and will make the scapegoat of this whole affair. But what else could be expected? Months ago we insisted that the maledictions of these men would recoil upon the heads of those who had allowed themselves to be misled by their faithless pleadings and to be dragged into this mire of falsehood. The end is not yet; but read how magnanimously they return favors extended at very great cost in an hour of admitted need. It was insisted at the time that the curses

of these men would recoil upon the Marine Hospital Service and its officers. In the following language this editor returns his gratitude:—

"The members of the board were not satisfied to express their opinion upon health conditions, but they were engaged in an active propaganda, disseminating slanderous information about San Francisco in every city in the civilized globe. In conjunction with a discredited employee of the Marine Hospital Service, they reported deaths from other causes as deaths from plague, and this in the face of the strongest medical testimony that there was no trace of plague in the deceased. . . .

"Few people in San Francisco know how narrow was the escape of this city and state from a general quarantine two years ago. The charlatans of the Board of Health and some discredited doctors in the Marine Hospital Service threatened that unless they were allowed the expenditure of an enormous sum of money for precautions, which subsequent events proved to be entirely unnecessary, they would not only brand this city as plague-stricken, close its commercial ports, stop the sale of its products, and ruin its commerce, but would take away from San Francisco the government transport service operating at this port. . . .

"And, furthermore, a large number of cases reported by the present board of health as being cases of the true bubonic plague were proved upon investigation to be deaths from well-defined and natural causes other than the plague, and the symptoms reported to be symptoms of the bubonic plague were proved to be symptoms of non-infectious diseases. This fact does not rest upon the assertion of any one set of medical men. It rests upon the confession and admission of the head surgeon of the Marine Hospital Service, who in a telegram congratulated the governor of the state of California on the fact that during their united investigations no single case of plague had been found."

It is extremely unfortunate that so important a metropolis must remain at the mercy of such newsmongers. It is equally a pity that this same blind, short-sighted policy, selfish even unto vicious falseness and the injury of the state, both as a national and commercial power, should be so evident, not only in this, but in all questions that touch her financially, or in any manner where the proceeds do not remain within her coffers. It is truly unpardonable that this commonwealth should be so awed by its own preponderance

and importance as to be unable to heed the fact that the disease still silently and unmercifully stalks among the unfortunates of that filthy district, killing with that same slow and steady pace that it has evinced with greater or less severity in all epidemics; and yet everywhere in our midst the cry is heard, "There is not, and never has been, any plague." Away with the Board of Health, the charlatans, the fakirs. And as we go to press, their position is again menaced by the proceedings deemed necessary by Judge Sloss in his decision, notwithstanding that in this issue are reported three cases that have since died of plague, a possible warning of no mean import.

CORRESPONDENCE.

THE SUPPRESSION OF CONTAGIOUS DISEASE BY THE MAYOR AND GOVERNOR.

COPY OF RESOLUTION ADOPTED AT A CONFERENCE OF HEALTH OFFICERS OF SEVERAL STATES HELD IN INDIANAPOLIS, IND., APRIL 25, 1902.

The following committee was appointed to draft resolutions based on the manner in which the governor of California is dealing with the bubonic plague at San Francisco: Byron Stanton, president Ohio State Board of Health; William Bailey, president Kentucky State Board of Health; A. H. McBeth, health commissioner, Fort Wayne, Ind.; W. S. Pritchett, commissioner of Vanderburg County; Hugh A. Cowing, Delaware County health officer; Eugene Buehler, city sanitarian, Indianapolis; J. N. Hurty, secretary Indiana State Board of Health.

"We, the representatives of the state boards of health of Ohio, Kentucky, and Indiana, together with representatives of the county and city boards of health of Indiana, in conference assembled in the city of Indianapolis, April 25, 1902, in view of certain documentary evidence before us, resolve as follows:—

We view with surprise and alarm the acts of the governor of California and the mayor of San Francisco in attempting to suppress the facts relating to the presence of bubonic plague in that city. We are surprised at such attempts, because we regard the facts as fully established and beyond all question.

The board of health of the city of San Francisco, composed of honorable gentlemen, distinguished for their scientific attainments, and holding the entire confidence of their associates and the public, published the facts in their monthly reports to the city government, submitting therein all necessary data. The existence of the plague in said city was afterwards confirmed by an expert sent there by the United States Marine Hospital Service, by an expert employed by the State Board of Health, and finally by a commission of eminent bacteriologists of international fame, whose sole interest in the matter was scientific. We view with alarm this attempt to suppress the fact of the presence of an epidemic disease the most dreadful known to medical science, because with bubonic plague and cholera in a number of ports in direct communication with that of San Francisco, and with the energies of the governor of the state and the mayor of the city directed to the suppression of fact rather than plague, what guarantee has the interior that it will long be exempt?

We condemn the acts of the governor of said state in attempting to discredit the competency and veracity of the experts above mentioned; for forcing the resignation of certain members of the State Board of Health because they concurred in their verdicts; for seeking to unduly influence the United States Treasury Department; and for making disbelief in the existence of the plague a condition of appointment to the vacancies caused by the above resignations.

We condemn the acts of the mayor of San Francisco in cooperating with the governor as above, and for removing from office the City Board of Health of San Francisco for no other reason than that, in the faithful discharge of the duties imposed upon them by law and their endeavor to protect the lives of, and health of, the citizens of that metropolis, they published the presence of the plague, and maintained their honor against all influence brought to bear.

We further declare it is beyond our comprehension how any member of the honorable profession of medicine, conscious of the dignity of his high calling and zealous for the maintenance of that dignity, could accept appointment to vacancies thus created under the conditions expressed or implied.

We call upon sanitary associations, boards of health, medical and scientific associations throughout the country to join with us in the above.

We affirm that in every state, territory, and municipality of the United States where the representatives of the people have enacted laws for the protection of the lives and health of their citizens, and have appointed boards whose duty it is to execute those laws, the citizens of said states, territories, and municipalities have a right to hold said boards to the faithful performance of their duties and to the prompt and effectual use

of every means which the law allows and sanitary science approves for the prevention of the introduction and spread of epidemic disease dangerous to the public health.

We further affirm that in the employment of such means it is absolutely necessary to notify the public of the presence of said epidemic disease, point out the locality in which it has appeared, and indicate its progress, in order that the public, being aware, may cooperate in its extinction.

We further affirm that, in pursuance of these measures, and in answer to the rightful demand of citizens for protection, infected houses should be placarded conspicuously, and, if found necessary, guards employed, and detention and isolation hospitals erected, in the employment of which measures, publicity should be courted rather than avoided.

We further affirm that where the responsibility of protecting the public health rests solely upon said boards, no other authority, however high, should thrust itself between them and their duties, and where individuals or corporations interfere to prevent the discharge of said duties, such should be made amenable to the law.

CALIFORNIA PUBLIC HEALTH ASSOCIATION.

Fearing that some misunderstanding may exist regarding the purpose and functions of the new Public Health Association of California, I would be obliged to you if you would kindly state in your next issue that the objects of the new organization are to secure regular conventions of health officials and others who are interested in guarding the public health; to secure the healthful interchange of opinions among health officials throughout the state; to stimulate the study of sanitary problems; and to diffuse knowledge pertaining to the public health. It is far from the purposes of the organization to encroach in any manner upon the domain of the State Board of Health or of any other sanitary organization. On the contrary, it is much desired to enlist the cooperation of the State Board of Health and of all local boards. The promoters of the new association are desirous of maintaining the association as a scientific body and free from politics, feeling that on that basis alone can its perpetuity be secured. In behalf of the Public Health Association, I wish to thank you for the excellent issue of the "Occidental Medical Times" of May, in which you have devoted so much space to the new association.

Very truly yours,

Dr. Edward von Adelung,
Pres. Public Health Ass'n of Cal.
1068 Broadway, Oakland.

May 19, 1902. Lee Mon (Lee Mong), aged 42, male. Died at 731 Washington Street, at 1 P. M., on May 19, 1902. Autopsied at 3:30 P. M. Body that of an unusually well-nourished, muscular Chinese male, about 40 years of age. When body was first brought to the morgue there was very little post-mortem lividity, but this soon made its appearance after the body was exposed to the atmosphere. Rigor mortis just beginning. Pupils moderately dilated. Sclera shows great injection of blood-vessels and a few small hemorrhages. No evidence that "black san" treatment was given patient during life. Two or three small hemorrhages into the skin over the abdomen. Right inguinal region more prominent than left, and over this area of prominence the skin has a yellowish anemic appearance, probably due to pressure from the edema beneath. This yellowish area extends along Poupart's ligament from the pubes to the anterior-superior spine, a line from the anterior-superior spine dropped downward for three inches, thence across to the center of Scarpa's triangle to a point about three inches below Poupart's ligament, and thence back to the pubes. Palpation in this region shows a mass of enlarged glands so matted together by infiltration that it is impossible to feel any individual gland, but only the whole indurated mass, which constitutes an important plague indication. Incision, crucial in shape, was made over this area. Flow of edematous fluid follows the knife-cut. Subcutaneous tissue found injected and edematous. The glands are enlarged, hemorrhagic, with areas of necrosis. Incision made on the opposite side shows normal inguino-femoral region. There is no wound to account for the glandular enlargement mentioned, nor lesions of the penis, and by far the greater—five-sixths—of this glandular mass lies below Poupart's ligament. Two old atrophic scars, one on the right leg two inches above the ankle lying over the anterior aspect of the tibia, the other one inch below the lower attachment of the ligamentum patellæ, also lying directly over the anterior aspect of the tibia. These scars are probably the result of injuries received many years ago. There is no enlargement of the axillary glands noticed on palpation, nor the cervical glands. The appearance of the body before the autopsy was begun—that is to say, on inspection alone—was such as to justify a provisional diagnosis of plague, which was made. Smears from one of these enlarged glands show plague-like bacilli in great numbers. Long median incision made. Subcutaneous fat unusually well preserved. Subcutaneous blood-vessels distended. Muscles a little darker than normal in color; moist; unusually firm and well developed for one of this race. Peritoneal cavity opened. Intestines in normal position. Omentum very rich in fat, does not cover intestines, but is retracted up to the costal border. Blood-vessels of omentum injected, but there are no hemorrhages. No fluid in abdominal cavity. Appendix normal, points toward pelvis. Liver extends two finger breadths below costal border, near the median

line. Spleen not adherent to abdominal wall. Spleen enlarged about twice, or little less, its normal size; of a uniform dark bluish red color, with the exception of a few areas, which are light pink. Section of one of these shows the characteristic wedge shape of infarct. Organ soft, shows no subcapsular nodules. Cuts very easily. Cut surface very rich in blood. Slight bulging of the pulp. No connective tissue increase. Thorax opened by removal of sternum; lungs meet in median line, do not completely collapse. Left pleural cavity contains about a pint of clear serum. Pleura not adherent and shows no evidence of present or previous pleurisy. Right in same condition—that is to say, hydrothorax. Lungs crepitate throughout. Vesicles about borders distended. Organ considerably larger than normal, pits on pressure, cuts easily. Cut surface poor in blood. Air, blood, and serum exude in normal proportions. Moderate pulmonary emphysema. Pericardium opened. Contains a small quantity of straw-colored fluid. Heart surface covered with fat. Apex formed entirely by left ventricle, which is firm and decidedly hypertrophied. Right ventricle normal in consistency and size. Vessels not tortuous. Pericardium smooth and shows neither injection of vessels nor hemorrhage, except in one small area, where there is a patch of slightly-dilated vessels. Heart removed. Mitral valve very much thickened and sclerotic. Left ventricle muscle thickened, but normal in color and appearance. Aortic valves normal. Aorta shows numerous plaques, which do not, however, obstruct coronary openings. Left kidney removed. Fatty capsule unusually rich. Capsule tense; organ rather soft. Capsule strips off very easily. Cuts easily. Cut surface rich in blood. Injected, blood-stained, with areas of loss or diminution in contrast between cortex and pyramids. Cortex normal in breadth. (Acute nephritis.) Liver enlarged, soft, of a light yellowish color, interspaced with areas of venous congestion. Capsule, transparent, smooth, and glistening. Cuts very easily, and shows a light yellowish cut surface; is quite rich in blood. There is no increase in connective tissue, nor change in the structural appearance, fatty infiltration and congestion being the only abnormal conditions. Bladder one-half full; peritoneal surface slightly injected. No involvement of the iliac glands on either side. Mesenteric glands not enlarged; mesentery very rich in fat. Intestines appear normal. Stomach empty, but not injected. Gall-bladder moderately distended, but empties on pressure. Anatomical diagnosis: Chronic endocarditis, pulmonary emphysema, fatty infiltration of the liver, double hydrothorax, acute nephritis, acute adenitis, the latter probably due to plague infection. Probable cause of death, bubonic plague. Smears from the spleen show plague-like bacilli in small numbers. The organisms from the inflamed glands and from the spleen are morphologically and tinctorially pest-like.

Case 56. Chin Kee, aet. 21, male; died 811 Jackson Street, May 25, 1902. Undertaker, Main Fook.

Case not seen clinically by this office. Dr. Kellogg, city bacteriologist, removed a very

much enlarged pest-like gland from the left axilla, about 5 P. M., May 25, at the residence of the man. Macroscopically and microscopically this gland is decidedly pest-like. Friends objected to further autopsy. Probable cause of death, bubonic plague.

Case 57. Lum Ying Hein (Hen), age 25, died 847½ Clay Street, 9 A. M., May 26, 1902. Body that of a Chinese male about 25 years of age. Rigor mortis well marked. "Black san" treatment on chest. No post-mortem lividity when first seen, but this rapidly made its appearance on the body being exposed to the atmosphere. Sclerae injected. Incisions made over both axillary and inguino-femoral regions, showing the glands themselves slightly enlarged, but not edematous nor injected. Long median incision made. Abdominal cavity opened. Intestines and viscera in normal position. Intestines not covered by omentum. No enlargement of mesenteric glands. Appendix vermiformis normal and points towards true pelvis. Spleen removed. Enlarged to about one-third above its normal size, tense, firm. Capsule smooth, glistening, shows neither subcapsular nodules nor hemorrhages. Incision made through organ, which cuts very easily. Cut surface rich in blood. Very slight bulging of the pulp and no connective tissue increase. Liver slightly enlarged, firm; capsule smooth and transparent. Incision gives slight sense of grating, and the cut surface shows the appearance of early cirrhosis. Kidneys.—Attachment very loose. Fatty capsule well preserved. Fibrous capsule strips off readily, leaving a smooth yellowish-red surface. Cut surface moderately rich in blood. Shows a slight cloudy change around the pyramids, otherwise the organs are normal. Thorax opened. Lungs collapsed on both sides. About one pint of fluid in each pleural cavity. This effusion is not to be accounted for by any present or previous pleurisy; the pleurae of both lungs are in every way normal in appearance. Lungs small, firm, and anemic, all of which conditions are due to compression of the fluid within the pleural cavity. No other abnormality met with in either lung. Heart enlarged to about one-fourth above its normal size, soft, surface moderately covered with fat. Right heart distended with fluid blood and a very few clots. Opened shows a normal endocardium, with considerable fatty change of the heart muscle. Trachea and larynx opened, found normal. Tonsils not enlarged. Intestines opened, found injected. Stomach in same condition, and shows large quantity of hemorrhagic fluid, which has been acted upon by digestive juices. Anatomical Diagnosis.—Double hydrothorax; fatty degeneration of the heart muscle; cloudy swelling of the kidneys; early stage of Laennec's cirrhosis; pulpitis of the spleen; and provisionally, pestemia. Microscopy.—Smears from the inguino-femoral glands and from the spleen show a goodly number of pleomorphic bacilli, some of which, morphologically, closely resemble *bacillus pestis*.

SOCIETY PROCEEDINGS

CALIFORNIA ACADEMY OF MEDICINE.

Postponed Meeting, April 29, 1902.

The president, D. W. Montgomery, in the chair.

FRACTURE OF THE SPINE; TREATMENT BY EXTENSION WITHOUT OPERATION; RECOVERY.

Dr. T. W. Huntington made following report: On Feb. 13, 1902, J. B., age 43 years, laborer, fell 18 feet, striking on his back. Was stunned, but did not lose consciousness. Was unable to rise or walk, and was taken directly to the city and county hospital. Examination.—Patient was suffering from shock; extremities cold. Over the ninth dorsal vertebra there was a well-marked deformity caused by antero-posterior displacement of the bodies of the vertebra. The spinous process of the ninth dorsal vertebra was movable, and upon manipulation a distinct crepitus could be made out. Motion and sensation of lower limbs were unimpaired. Patella reflexes markedly increased. Patient complained of numbness of lower extremities. Sensation of cold and heat somewhat delayed, but not obliterated. Function of sphincters unimpaired. Operative interference was thought to be advisable, but the patient declined, and treatment by extension was adopted according to the following plan: A plaster-of-Paris jacket was adjusted about the thorax and axillae, coming well up to the cervical region. From this suspension, straps were arranged and attached to the bed-rail at the head of the bed. The head of the bed was then elevated to an angle of about 40 degrees, allowing the weight of the body to act as a counter extension. At the end of two days the deformity had become inappreciable, and the patient was altogether comfortable. No pressure symptoms were present. This was continued for two weeks, when a full plaster jacket was substituted, and the patient allowed to sit up. At the end of one month, patient could walk with a slight support, and at the present time, about two months after the injury, he walks well without assistance. Spine is rigid at the seat of injury, but, aside from slight numbness of the lower extremities, there are no important symptoms attributable to the injury.

Dr. G. F. Shields favored the conservative method of treatment, and thought it wise not to use anything that would produce pressure by fixation. Where there is loss of function of bladder, rectum, etc., no surgical interference is advisable, because cord is destroyed and usually pulpified. Has seen cases where plaster corset and fixation apparatus have produced large areas of necrosis.

Dr. H. M. Sherman: I would like to

understand more clearly the symptoms following this injury; what functions were disturbed; was there paralysis, etc.? (Referring to Huntington's "Fracture of Spine.")

Dr. Huntington: In my notes I mentioned that no functions were disturbed; there was no paralysis; but some anesthesia and the deformity.

Dr. Sherman: This then was a case of fracture of the spine, either of the processes or the laminae, without paralysis, with concussion, and therefore operative measures were not necessary at any time. In the other case there probably was a partial compression, but patient is recovering from that. The question of operation is interesting, and the concensus of opinion is as Dr. Shiels has just expressed it. In these cases we are dealing with a hemato-myelia, or pressure from fracture. If pressure from a clot does not change the cord structurally, recovery will take place; but when the cord is destroyed we can not expect restoration. When the compression is due to bone, it has usually amounted to a crush, and operation will do no good. In some of these "jack-knife" cases, there is only hemato-myelia, and only hemorrhage to be dealt with, and they recover, and by the conservative method. Time plays a very important part in the restoration of function in these cases. I do not agree with Dr. Shiels when he states that no splint should be used for fractures of spine. There are splints and splints. Some can be used that never do any damage, and are as soft and easy as any bed the patient may lie upon; they can be so arranged that the back can be cared for and the functions carefully attended. They can be so made that no pressure can be brought to bear at any particular point, and then they will not do any harm.

Dr. Huntington: Operative interference was advised by myself and Dr. Rixford at the time of injury, because of deformity, pain, and apparent difficulty of reduction. With regard to the general subject of operative interference in such cases, the profession has differed widely in the past. Walton has, however, thrown much light upon it through the statistics of work done at the Boston City Hospital. The total number of cases of fracture of the spine was 176; 155 of these were treated by the conservative plan; 105, or 67 per cent, died; and 40, or 26 per cent, were relieved. Twenty-one cases were treated by operation; of these 15, or 71 per cent, died; and four, or 19 per cent, were relieved. The operation itself is shown by the the same authority to be attended with marked danger through interference with respiration and the administration of anesthesia. One authority states that the main yield thus far from operations is a highly valuable collection of pathologic specimens. Charles L. Dana, of New York, says that while the operation in his experience is tolerably safe, the ultimate results are not satisfactory. Putnam, of Boston, is not sure that improve-

ment which occasionally follows operation can always be credited to the surgeon, but he believes that when there is evidence of bone pressure without total destruction of the cord it should be promptly relieved. This opinion is verified by a previous case of my own, in which the patient at time of injury was almost totally paralyzed below the eighth dorsal vertebra. The spinous process at this point was found to be separated and driven into the spinal canal. It was easily removed, and the patient, after a long and tedious convalescence, now walks with the aid of a single cane.

EPITHELIOMA OF LIP.

Drs. Sherman and Montgomery reported a case of epithelioma of lip, which is published at page 215.

COMPLETE CLEFT PALATE.

Dr. Sherman also presented a case of complete cleft of the palate, with hare lip, which had been successfully operated upon. (To be reported in full at a later date.)

Dr. F. B. Carpenter: In treatment of a case of cleft of the hard and soft palate, I had spent one year, and only succeeded after repeated operations. It is a very difficult matter to bring the hard palate together, and the most difficult task of all is to get coaptation of the bony edges at the borders. I cut away and chiseled, and only after seemingly most destructive work did I succeed. The final result was very satisfactory, but child, unfortunately, died three years after of measles. I would like to add that I operated upon my case before the days of adrenalin, and used the Hagedorn needle. A good gag is most important, and the operator should have had experience in this line of work. In my case, I exposed both edges of the mucosa, and chiseled freely through arch and bone, finally bringing the fractured bone into fair apposition, and by the use of considerable force externally saw that they stayed there. The mucosa was very thin, and the only thing that held the bones in position was silkworm gut run through and fixed. If you are going to use any needle and holder, the one exhibited is the best.

PLASTIC OPERATION IN FRACTURE OF THE NOSE.

Dr. H. M. Sherman reported a case on which he had done a plastic operation, exhibiting photographs, for fracture of nose. The young woman had suffered a bad fracture, the nasal bones and nasal processes of the maxillae were crushed in and the nose made very broad. In the restoration, the nasal bones were detached from the nasal processes of the superior maxillae and pushed towards the middle line. Later the nasal processes themselves of the maxillae were separated

from the body of the bone by driving a small osteotome up through their bases into the orbits, and then by considerable force the two processes were drawn inwards. These procedures lessened the width of the nose. At a still later date, a celluloid plate was put in, to make a bridge and correct the saddle shape still left. All the work was done through the nostril. No incision was made on the skin.

PERINEAL PROSTATECTOMY.

Dr. George Goodfellow read a paper describing his method of operating and giving a history of all cases to date. The paper bears further evidence of the great value of the procedure, which was reported in this journal in November, 1901.

Dr. T. W. Huntington: Dr. Goodfellow should be accorded priority in the operation which he has outlined. When my attention was first called to the subject, I was of the opinion that others had done the same operation earlier than he, but I find in the literature of the subject no reference which antedates the early reports of the author of the evening. My experience in dealing with enlarged prostates by the method devised and described this evening by the reader is limited to a single unfortunate case. The undertaking was completed without special difficulty, the patient being in bad condition and seventy years of age. He did fairly for a time, but died of broncho-pneumonia at the end of six weeks. The procedure appeals to me because of its simplicity and ease of accomplishment. In connection with this subject I am deeply impressed with the fact that surgeons generally have failed to appreciate the pathological condition here met with. With more frequent opportunity for examination of the hypertrophied prostate, I have been more than surprised at the relative increase of the mass as it appears after removal. In my own case I was also surprised at the ease with which it can be enucleated. The loss of blood, which has always been regarded as a serious factor in these operations, appears now to be of no importance, since it is shown that the gland can be shelled out almost without hemorrhage. That the operation can be entered upon with much assurance is fairly well set forth by the statistics of the author. One point, which Dr. Goodfellow seems not to have sufficiently emphasized, is the great advantage gained by the operator in having the finger within the bladder, thus enabling him to draw the prostate down into the operative field, and giving him absolute control over it. In the Alexander operation the same object is attained by a preliminary supra-pubic cystotomy; but it is apparent that this step materially enhances the danger to the patient and will probably increase the death rate.

Dr. J. H. Barbat: The first case of perineal prostatectomy which I saw was in 1887, and was done by Dr. Robert McLean, of this city. It was done through a transverse perineal incision, and the prostate removed piecemeal.

with scissors. The result was very good. I do not know whether the doctor had done the operation in this manner before or not. I have only had one supra-pubic prostatectomy, in which case I morcellated the gland with a large rongeur forceps, my assistant having the finger in the rectum to prevent injuring that viscus. In Dr. Carpenter's case the combined operation was done, first making the suprapubic opening, which disclosed the prostate, looking very much like the cervix uteri. A transverse perineal incision was then made, and in dissecting with the finger it was found that the gland could be easily separated and removed, with practically no hemorrhage. When we look back over the field of prostatic operations, Dr. Goodfellow deserves great credit for having perfected and simplified the various methods. Instead of the suprapubic procedures, which are difficult and not always satisfactory; instead of using various devices for the purpose of dragging or pulling the prostate down, we should now adopt Dr. Goodfellow's idea and use the exaggerated lithotomy position, which, by relaxing completely the abdominal muscles, and at the same time putting the perineal structures on the stretch, has the effect of bringing the prostate down within easy reach of the finger. There is no doubt as to the advisability of cutting into the bladder first, because the operation can not be completed without opening it, and it is better to cut it open than to tear it with the finger. It also enables us to examine the interior of the bladder either with the finger or cystoscope, and gives the operator better control of the gland. The reason that we can shell out the prostate is because it has a fibrous capsule, and unless that is cut through, or torn through, it can not be removed in the manner described by Dr. Goodfellow, and furthermore, if the attempt is made to enucleate outside of the capsule, we must tear through the numerous venous plexuses which surround the capsule, and the hemorrhage is terrific.

Dr. L. Bazet: Please accept my thanks for the invitation tendered to me to take part this evening in the discussion. The reason why surgeons did not perform radical cures in prostatic hypertrophy was because the majority of them believed that lesion to be a manifestation of arterio-sclerosis; no wonder, then, that they remained inactive when they had to face a sclerosis of the bladder, kidneys, and the general arterial system. This theory was in vogue until new histological researches were made after the failure of castration and vasectomy to cure this affection. In 1897, Mott, in a contribution to the study of the histological structure of prostatic hypertrophy, found that, out of 30 prostates examined, in 16 cases the vessels were completely normal, in 5 cases a simple congestion without vascular lesion, and in 9 cases only the vessels were very numerous and affected with endo and periarteritis. It was difficult, then, to admit that arteriosclerosis was a principal cause of prostatic hypertrophy. The tendency to-day is to consider this prostatic hypertrophy a primary affection, reacting secondarily upon

a bladder whose functions and mechanism it viciously disturbs. Whatever be the name you may give to the enlargement, be it an adenoma, a myoma, or a fibroma, or a mixed tumor, it is this hypertrophy which causes an obstruction to the flow of urine, such obstruction ending sooner or later in retention and infection. The destructive work may go further and show itself by a malignant reaction; Albarran and Halle found that, out of 100 hypertrophied prostates examined, 14 per cent were affected of malignancy. Hence the advisability of an early and radical operation to remove the obstacle, to prevent the bladder from losing its contractility and the infection from adding its lesions. In the last four years prostatectomy has been performed many times by various operators, who have demonstrated that the enlargements could be removed without danger to the patient. The operations in vogue have been suprapubic, the combined suprapubic and perineal, and lastly the perineal. The immediate and distant results of the last one have been so brilliant that its future is well established, and the other two will be resorted to only in exceptional cases. By the communication of Dr. Goodfellow, you have been informed of the most important step made to-day towards the cure of prostatic hypertrophy. It is an operation based upon a surgical method. It deals with the obstacle by the perineum; it attacks it not by a mere section, but by a removal of the enlarged parts or the ones liable to be enlarged. It drains the bladder not by an orifice, but by a canal, tapping the urine at its lowest level, thus putting at rest the whole urinary apparatus. During that rest the infection disappears and the bladder is put in a condition to regain its normal function. His method consists in excessive flexion, opening by a perineal vertical incision the membranous urethra, hemisection of the posterior part of the prostatic urethra and of the prostate from its apex to the neck of the bladder; removal of the lobes one after the other with the fingers. If you consult the records, you will notice that the surgical literature on the subject has been lately quite extensive, and the only operator that has adopted the perineal method is Proust, who has established it on a scientific basis. I am quite convinced that Proust was not acquainted with Goodfellow's operation when he wrote his thesis, "Prostatectomie Totale," in 1900, his communication on perineal prostatectomy in collaboration with Gosset (in 1900), his article, "Prostatectomy and Inversed Perineal Position" (Oct. 30, 1900), and lastly his article at the fifth Reunion of the French Association of Urology, Paris, 1901, "Technique of Perineal Prostatectomy." The technic of the operation of Proust is not the same; the principle adopted is the same. He uses a table, a modification of Jayle, to acquire an excessive flexion; by that table he can dispense with two assistants; he chooses the transverse perineal incision to go through the prerectal space; he exposes widely the parts by means of two special retractors; he seizes the prostate with an instrument of his own; it frees the pros-

tatic lobes on their external surfaces, divides on their posterior surfaces the prostatic urethra and the prostate, and removes with scissors and traction forceps one hemisection after the other. This is the same operation, the only difference being Goodfellow operates successfully in the dark, Proust dissects and brings before the eyes all the operative field from the membranous urethra to the inter-deferential triangle. The results are the same. Who is entitled to be the author of the method? Goodfellow has operated by his method since 1891; he has presented his operation in 1896 to the Southern California Medical Society. Proust communicated his first report in 1900, his last one in 1901. I think it is but justice to proclaim here that the priority of the method ought to be given to our colleague, Dr. G. Goodfellow. Since last October I have had 4 cases requiring operation. One of them was operated by Dr. Goodfellow; the other 3 I operated myself. Their ages were 56, 75, 63, and 78. One was in the second period of prostatic hypertrophy; the other three were in the third period. Their life was seriously threatened by the urinary infection. These patients, notwithstanding their broken-down constitutions, are on their way to recovery. I have adopted the transverse prerectal incision, which I prefer to the vertical, because I can see what I am doing. The cicatrization is not retarded; the wound heals as quickly by one method as by another. I will report my cases when the time will have sanctioned the results. Until then I will continue to operate as above, because I firmly believe that by perineal prostatectomy any hypertrophied prostate can be removed, and that a sufficient time has elapsed to demonstrate that the operation is without danger and its mortality very low.

Dr. Dudley Tait: Judging from the present discussion, one might gain the impression that Dr. Goodfellow had but small claims as a pioneer in the radical treatment of prostatic hypertrophy. I can see no reason for denying Dr. Goodfellow the priority. While in Paris last year I worked several times upon the prostate with Proust, and noted the fact that neither he nor Albarran knew of or had used a technic recalling in any manner the original and very clever procedure described by Dr. Goodfellow. Proust, after having dissected prostates for over three years, proposed in his inaugural thesis an operation for removal of the entire prostate, cutting directly across the membranous urethra, dissecting the bisected prostate from the bladder, making two postero-lateral pedicles (seminal vesicles branch of anterior vesical artery and veins), and then anastomosing the sectioned urethra. Subsequently Proust and Gosset modified this method by omitting the cross section of the urethra. Albarran eleven months ago simplified this method by adjusting the American plan of "subcapsular enucleation." In treating the subject of hypertrophy of prostate, many surgeons seem to overlook the histologic side of the question. The majority of operable hypertrophied prostates present glandular

lesions of adenomatous type very similar to the condition found in the adenomatous type of goitre. In the ordinary operation called perineal prostatectomy the glandular masses are removed, but not the entire prostatic gland. It is well known that removal of the entire prostate necessarily causes great damage to both the urethra and ejaculatory ducts. There is consequently no more reason for using the term prostatectomy than there would be in making myomectomy synonymous with hysterectomy. Another point upon which we are liable to err is in ascribing to the prostate a capsule similar to that of the kidney. It is true that normally the limit of the prostate is marked by a few strands of fibrous tissue; but this tissue is intimately combined with the glandular substance, from which it can not be separated. In the majority of hypertrophied prostates, as are selected for operation, the so-called capsule is stretched, lamellated prostatic tissue. Proof of this is easily obtained by microscopic section of said capsule, showing the presence of glands. Wherever the adenomatous masses occur the same condition is obtained. Hence the shape and size of the masses removed from the prostate by enucleation can always be explained upon the supposition that the lesions are adenomatous. This further explains the great facility and bloodlessness of enucleation and the absence of injury to ejaculatory ducts during this procedure.

Dr. F. B. Carpenter: I had in mind to say something on the same line as that expressed by Dr. Tait, as to the name being a misnomer. I had one case in which a portion of the urethra was removed, but believe that it is not necessary to open the urethra. In this case I had attempted to operate without opening the canal, but unintentionally opened it. Dr. Goodfellow has determined that it aids greatly in shelling out the hypertrophy, which is no more difficult than to do the same thing with an intramural fibroid. It seems to me that the mucosa of the urethra should be no more disturbed than is the mucosa of the uterus. When the mucosa is removed, it certainly ought to hasten constriction; there must be an approximation, and there must be cicatrization; hence urethra must be narrowed and contracted. In operating upon the prostate it has been my custom to open its capsule by two incisions rather than one, making one over each hypertrophy, external to the median line instead of in that line. Such incisions are in more direct anatomical relation to the tumors, though the median incision has the advantage of less hemorrhage, since it is in the plane of anastomosis from the two sides.

A. E. Taylor: The various forms of so-called hypertrophy of the prostate body can not be grouped under one lesion. Some of the cases present a marked proliferation of the muscular tissue; other cases present a marked hypertrophy of the fibrous tissue or of the glandular tissue; others are tuberculous; many are inflammatory. In most instances we have inflammatory lesions superadded to old enlargements of whatever primary form. That

many of the cases are purely inflammatory and proceed from the prostatic urethra is certainly true. It is also true that there is an enlargement which occurs very gradually with advancing years, and which in its beginnings ought not to be termed pathological. In most instances, however, sooner or later inflammatory processes are added to the lesion. Some of these senile enlargements are arteriosclerotic, and associated with general arteriosclerosis; others are not. One will never be able to pass judgment upon an operative procedure unless the tissue which has been removed is examined. There has been much discussion here as to what is done in the operation. This can not be discussed, because the tissues have not been examined. Until one knows what has been removed, one can not state what has been retained. Nor can one speak of the process and modus of repair unless one knows what loss of tissue must be repaired.

Dr. E. E. Kelly: I have never done this operation, but have seen the operation done twice by Dr. Goodfellow. The author of the paper asks why perineal prostatectomy has so little hemorrhage. Dr. Barbat explained this in part when he stated that the capsule is torn in the operation from above, thus opening the rich plexus of veins which are found here; also, by opening through the middle line the perineum is cut at the point where the results are excellent. The incision cuts through the membranous urethra, avoiding the vessels of the capsule. There are two special reasons why the cases do well. First, the anesthesia is not prolonged, and these subjects are usually old and debilitated, and with little loss of blood are bad cases for anesthesia, and operation is brief. Secondly, the drainage is free and the bladder is enabled to be thoroughly emptied and drained of its residual urine; perfect drainage is obtained, which permits rest and contraction. The secondary band in the bladder is the result of saculation of the mucous membrane dipping down between circular muscular fibers of the bladder by reason of overdistension, and this saculation is one serious hindrance to the restoration of bladder control by other methods of treatment. Certainly this operation as described by Dr. Goodfellow is an ideal one, and it only remains to be seen whether it can be easily done by the average surgeon. If so, it will replace other methods and render safe and certain a hitherto rather formidable operation.

Dr. F. B. Carpenter: I wish to urge the advantage in opening the bladder for examination if stone might be present. If the hypertrophy can be reduced without opening the bladder, I believe it is better surgery.

Dr. Goodfellow: Introducing the subject, Dr. Goodfellow said that his first operation was made in 1891, and in 1896 he gave a paper to the Los Angeles County Medical Society giving the results of five years' work in that operation. In October, 1901, he read a paper before the San Francisco County Medical Society, wherein he gave a resume of greatly-

increased experience. That paper had been very favorably received by the profession, and, owing to that fact, he had been able to add quite a number of cases to the record. Prior to 1891 many procedures had been advocated, but no such operation, so far as he could ascertain, had been described. On Feb. 6, 1896, Alexander first described his operation, a double operation, for ablation of the prostate.* Replying to the last speaker, Dr. Taylor, if my results be criteria, I am sure that nothing resembling prostatic disease remained. The only case I have had an opportunity to re-operate (the one operated in 1891), demonstrated conclusively that all prostatic tissue had been removed. An enlarged prostate usually is a physiological affair until it becomes pathological by obstructing the flow of urine, and then must be operated. One feature of the operation upon which little has been said, and which I regret has not been discussed, is the almost total absence of hemorrhage by the perineal route, while in the suprapubic operation the flow of blood is severe and alarming. The points which I wish most to impress are the ease with which the prostate is reached, removed, and the bladder explored by my method. Thanking the gentlemen of the society for the honor conferred upon me—not a slight one—in the invitation to appear before them, I hope that I may have an opportunity to demonstrate the operation to those who have not yet seen it made.

MEDICAL NEWS.

PRIZE ESSAY ON THE DANGERS FROM SELF-DRUGGING WITH PROPRIETARY MEDICINES.

The Colorado State Medical Society offers a prize of twenty-five dollars for the best essay, for circulation among the laity, upon the dangers of self-drugging with proprietary medicines.

The competition is open to all. Essays must be typewritten in the English language, must contain not more than 3,000 words, and must be submitted before June 15, 1902. Each essay must be designated by a motto, and accompanied by a sealed envelope, bearing the same motto, and enclosing the name and address of the author. The essay receiving the prize will become the property of the society, for publication. Others will be returned to their authors. Essays should be sent to the Literature Committee.

Dr. C. A. Graham, Secretary, Stedman Block, Denver, Col.

* See Occidental Medical Times of November, 1901, for paper giving method and results to that date.

BOOK REVIEWS.

A very timely "Treatise on Small-Pox," to sell at \$3.00, is announced for publication early in April by J. B. Lippincott Company. It is written by Dr. George Henry Fox, professor of dermatology in the College of Physicians and Surgeons, New York City, with the collaboration of Drs. S. Dana Hubbard, Sigmund Pollitzer, and John H. Huddleston, all of whom are officials of the health department of New York City, and have had unusual opportunities for the study and treatment of this disease during the present epidemic.

The work is to be in atlas form, similar to "Fox'" Photographic Atlas of Skin Dis-

eases," published by the same house. A strong feature of the work will be its illustrations, reproduced from recent photographs, the major portion of which will be so colored as to give a very faithful representation of typical cases of variola in the successive stages of the disease, also unusual phases of variola, vaccinia, varicella, and diseases with which smallpox is liable to be confounded. These illustrations number thirty-seven, and will be grouped into ten colored plates, $9\frac{1}{2} \times 10\frac{1}{4}$ inches, and six black and white photographic plates.

The names of Dr. Fox and his associates assure the excellence of the work, in which will be described the symptoms, course of the disease, characteristic points of diagnosis, and most approved methods of treatment.